

THE LEAF-COLLECTOR'S HAND-BOOK





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I.

THE TREES OF NORTHEASTERN AMERICA.

II.

THE LEAF-COLLECTOR'S HANDBOOK.

III.

THE SHRUBS OF NORTHEASTERN AMERICA.

(In preparation.)

Minnie W. Fusten

THE LEAF-COLLECTOR'S
HAND-BOOK AND HERBARIUM

AN AID IN THE PRESERVATION AND IN THE CLASSIFICATION OF SPECIMEN LEAVES OF THE TREES OF NORTHEASTERN AMERICA

BY

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AUTHOR OF "THE TREES OF NORTHEASTERN AMERICA," ETC.

ILLUSTRATED

G. P. PUTNAM'S SONS

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PREFACE.

The leaves described and pictured in the following pages represent all the native trees, and the most important introduced and naturalized trees of Northeastern America,*—with the few exceptions named on page 213.

Those species are considered trees (in distinction from shrubs) which, as a rule, spring from the ground with a single branching trunk.†

How to use the book will be readily understood by consulting the following directions.

* The names of introduced and naturalized species are enclosed in brackets.

† "Trees of Northeastern America," page 4.



DIRECTIONS.

1. *How to find the names of specimens.*—Compare any given specimen, first with the descriptions in the "Guide," on pages xiv and xv, and then with the illustrations to which the "Guide" directs.*

2. *How to mount specimens.*—When the specimens have been pressed and *thoroughly dried*, and all their thick stems removed or pared, they should be fastened in their places opposite the corresponding illustrations, with strips of gummed paper an eighth of an inch or less in width.†

The compound leaves and the simple leaves, when they are larger than the allotted space, should be represented by sections of the leaf.

3. *How to preserve specimens.*—If the collection is attacked by insects, each leaf should be brushed lightly with a *saturated solution of corrosive sublimate and alcohol, increased by two thirds more of alcohol.*

4. *Notes.*—Interest and value will be added to the collection if full memoranda are kept of dates, localities, name of the finder, incidents, characteristics of the tree, etc.

5. It should be remembered that leaves from vigorous young sprouts are not usually the best specimens. It is seldom that two leaves, even upon the same mature branch, exactly agree, but they follow the type, while often the younger growth varies from it.‡

* If fuller descriptions and comments are desired, they can be found in the author's work on "The Trees of Northeastern America."

† A supply of gummed paper will be found at the end of the volume.

‡ "The Trees of Northeastern America," page 4.



LIST OF GENERA.

A—I		III (a)		PAGE	
	PAGE		PAGE		
Magnolia	3	Liriodendron	85	Larix	155
Asimina	7	Quercus	87	Chamaecyparis	157
Cercis	9			Thuja	157
Nyssa	11	(b)		Juniperus	159
Diospyros	13	Liquidamber	115		
Sassafras	15				
II		B—I		D—I	
Tilia	19			Ailanthus	163
Ilex	21	Cornus	119	Robinia	165
Prunus	23	Chionanthus	123	Gymnocladus	167
Pyrus	27	Catalpa	125	Gleditschia	169
Crataegus	29			II	
Amelanchier	35	II		Rhus	173
Oxydendrum	37	Viburnum	129	Pyrus	127
Ulmus	39			Juglans	179
Celtis	41	III		Hicoria	181
Morus	43	Acer	133		
Broussonetia	43			E—I—II	
Platanus	45			Negundo	193
Betula	47			Fraxinus	195
Ostrya	53				
Carpinus	55	C			
Castanea	57	Pinus	145		
Fagus	59	Picea	149		
Salix	69	Tsuga	153		
Populus	71	Abies	155		
				F	
				Aesculus	207



GUIDE.

Leaves, simple : *	{	alternate†	edge entire. Go to A—I	
			“ toothed. “ A—II	
			“ lobed {	Lobes, entire. Go to A—III (a)
				Lobes, toothed. “ A—III (b)
	{	opposite	edge entire. Go to B—I	
			“ toothed. “ B—II	
			“ lobed {	Lobes, entire. Go to B—III (a)
				Lobes, toothed. “ B—III (b)
			Indeterminate. Go to C—I	
Leaves, compound :	{	feather-shaped ‡	alternate, edge {	entire. Go to D—I
				toothed. “ D—II
		opposite, edge {	entire. Go to E—I	“ E—II
		hand-shaped §	opposite, edge toothed.	Go to F—I

* The leaflets of a compound leaf can be distinguished from a simple leaf by the absence of leaf-buds from the base of their stems.

† Referring to the arrangement of the leaves on the branch.

‡ *E. g.*, as in the hickories, sumachs, etc.

§ *E. g.*, as in the horse-chestnut, etc.

GUIDE (Continued).

NOTE.—Names in *italics* are given also under another division.

LEAVES—SIMPLE		III (<i>edge lobed</i>)	LEAVES—COMPOUND
A (<i>alternate</i>)		(a) (<i>lobes entire</i>)	I feather-shaped.
I (<i>edge entire</i>)			D (<i>edge alternate</i>)
	PAGE		I (<i>entire</i>)
Magnolias	3	Tulip-tree	PAGE
Papaw	7	Oaks	163
Gum, sour	11	Sassafras	165
Judas-tree		Buttonwood	167
Persimmon	13	(b) (<i>lobes toothed</i>)	Locust, honey
Sassafras	15	Gum, sweet	169
Oak, willow	111	Poplar, silver-leaf	Sumach, poison
Dogwood, alt.-leaved	121	Mulberry	
Willow, long-beaked	67	Oaks	II (<i>edge toothed</i>)
II (<i>edge toothed</i>)			Sumach, staghorn
Basswoods	19	B (<i>opposite</i>)	Ash, mountain
Hollies	21	I (<i>edge entire</i>)	Walnut, black
Cherries	23	Dogwood, flowering	Butternut
Plum	25	Fringe-tree	Hickories
Crab-apple	27	Catalpa	Locust, honey
Thorns	29	II (<i>edge toothed</i>)	
Shad-bush	35	Black haw	E (<i>opposite</i>)
Sorrel-tree	37	Viburnum, sweet	I (<i>edge entire</i>)
Elms	39	III (<i>edge lobed</i>)	Ash, red and white
Hackberry	41	(a) (<i>lobes entire</i>)	II (<i>edge toothed</i>)
Mulberry	43	(b) (<i>lobes toothed</i>)	Ash-leaved maple
Buttonwood	45	Maples	Ash, black, blue, green, red, and white, 195-203
Birches	47		
Hornbeam, Hop	53	C (<i>indeterminate</i>)	2 hand-shaped
Hornbeam	55	I	F (<i>opposite</i>)
Chestnut	57	Pines, cedars, spruce, etc.	I (<i>edge toothed</i>)
Beech	59		Buckeyes
Willows	61		Horse-chestnut
Poplars	79		
Oaks, chestnut	95		

TREES WITH SIMPLE LEAVES

LEAVES ALTERNATE

(EDGE ENTIRE)

A I

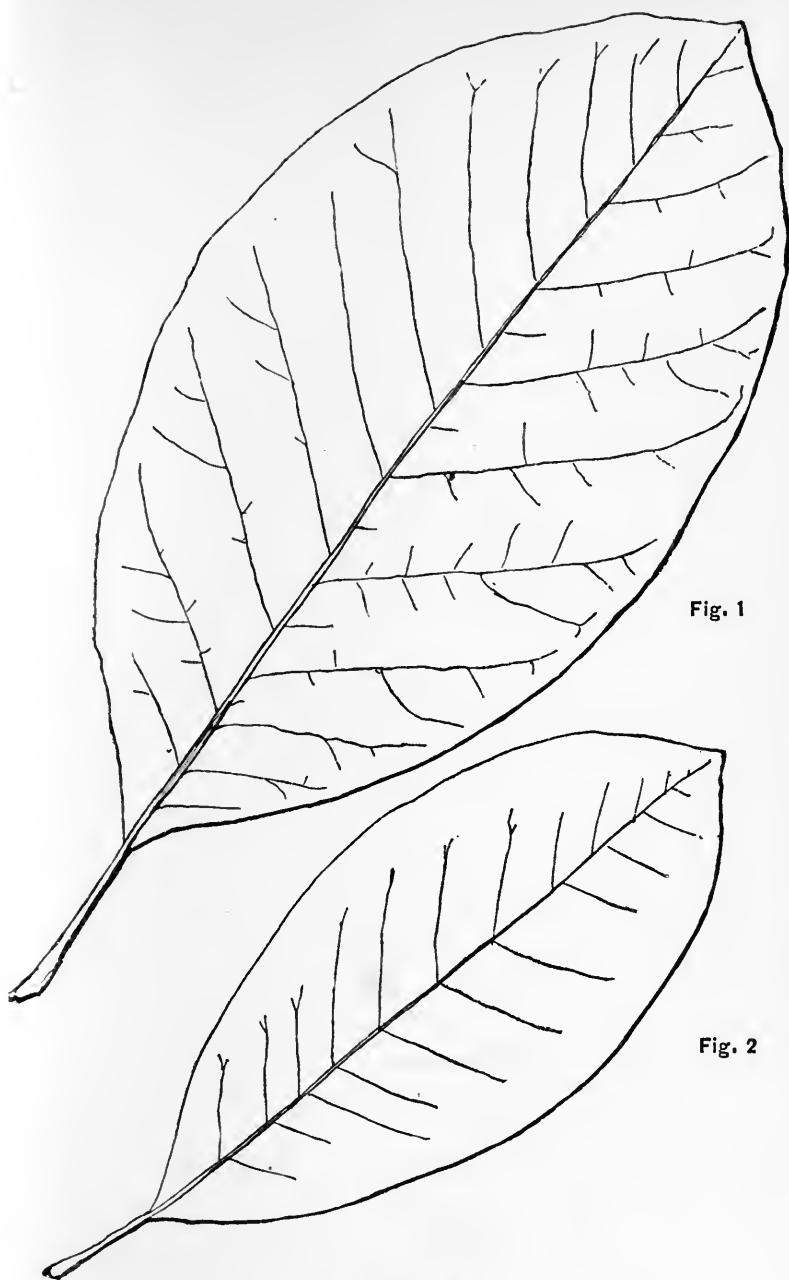


Fig. 1

Fig. 2

Fig. 1.—Cucumber Tree. (*M. acuminata*, L.)

Fig. 2.—Sweet Bay. (*M. glauca*, L.)

NATURAL SIZE.



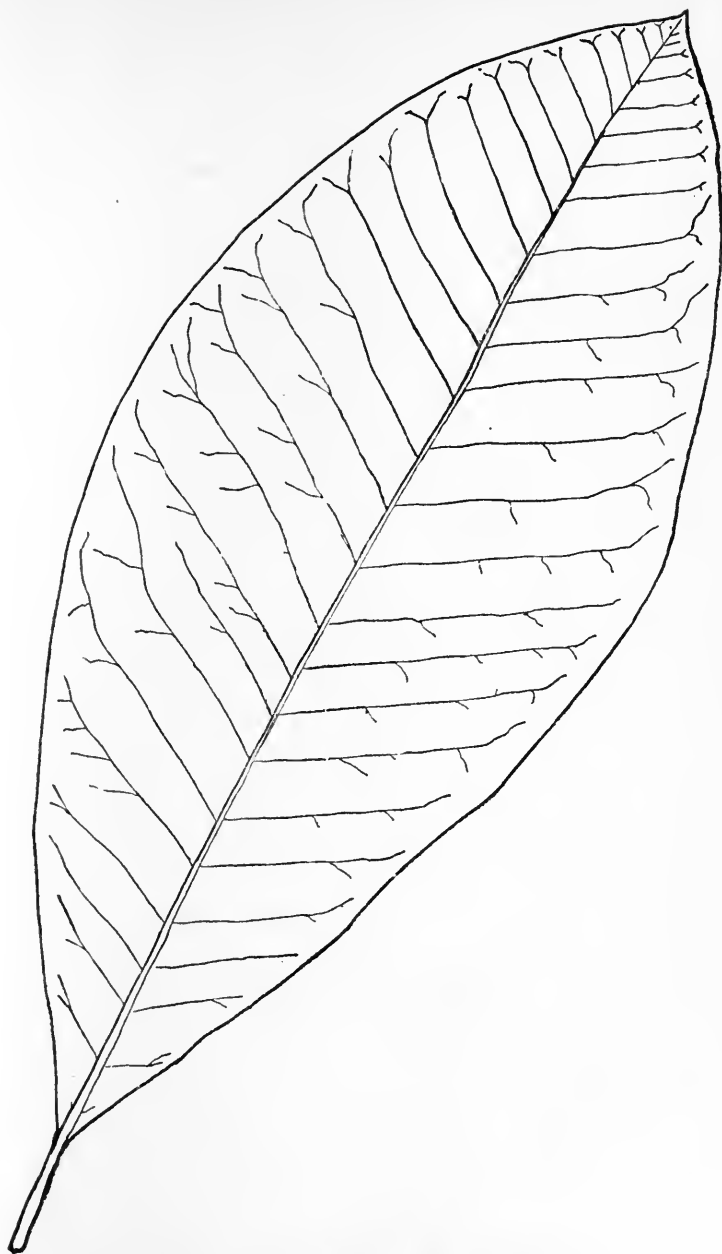


Fig. 3.—Umbrella Tree. (*M. tripetala*, L.)
ONE THIRD NATURAL SIZE.





Fig. 4.—Papaw. *A. triloba* (L.), Dunal.

LEAF, NATURAL SIZE. FRUIT, TWO THIRDS NATURAL SIZE.

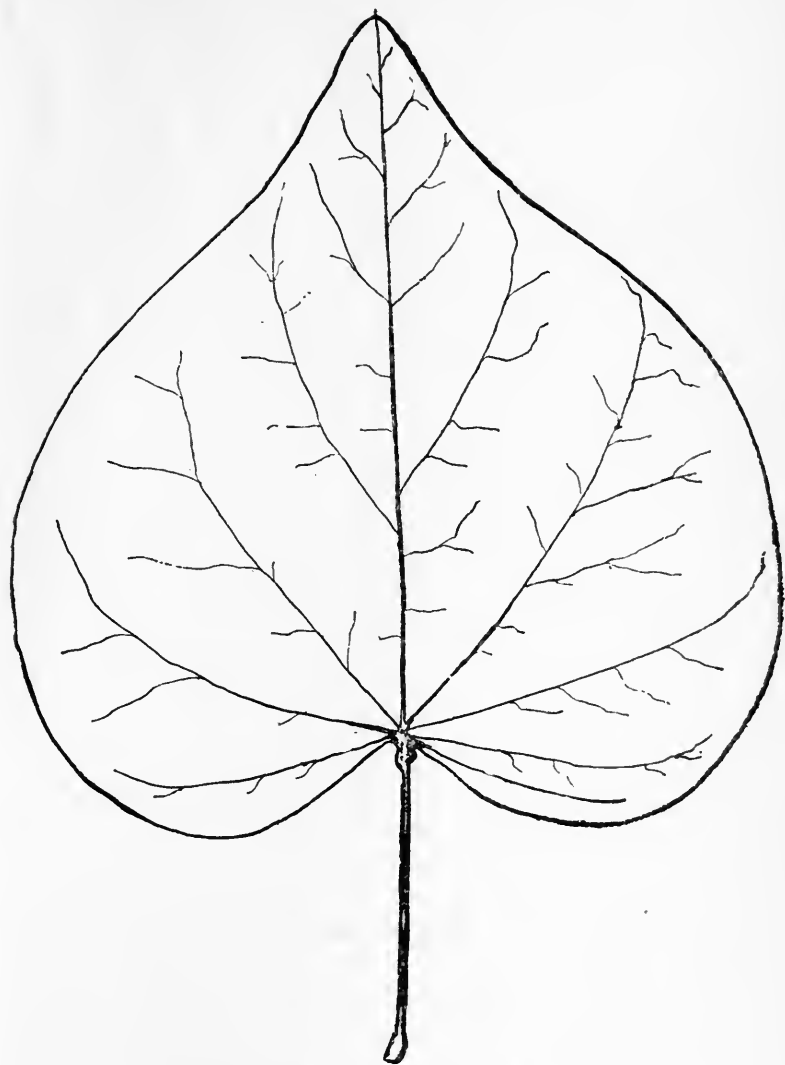


Fig. 5.—Red Bud. (*C. Canadensis*, L.)
NATURAL SIZE.



Fig. 6.—Sour Gum. (*N. sylvatica*, Marsh.)
NATURAL SIZE.

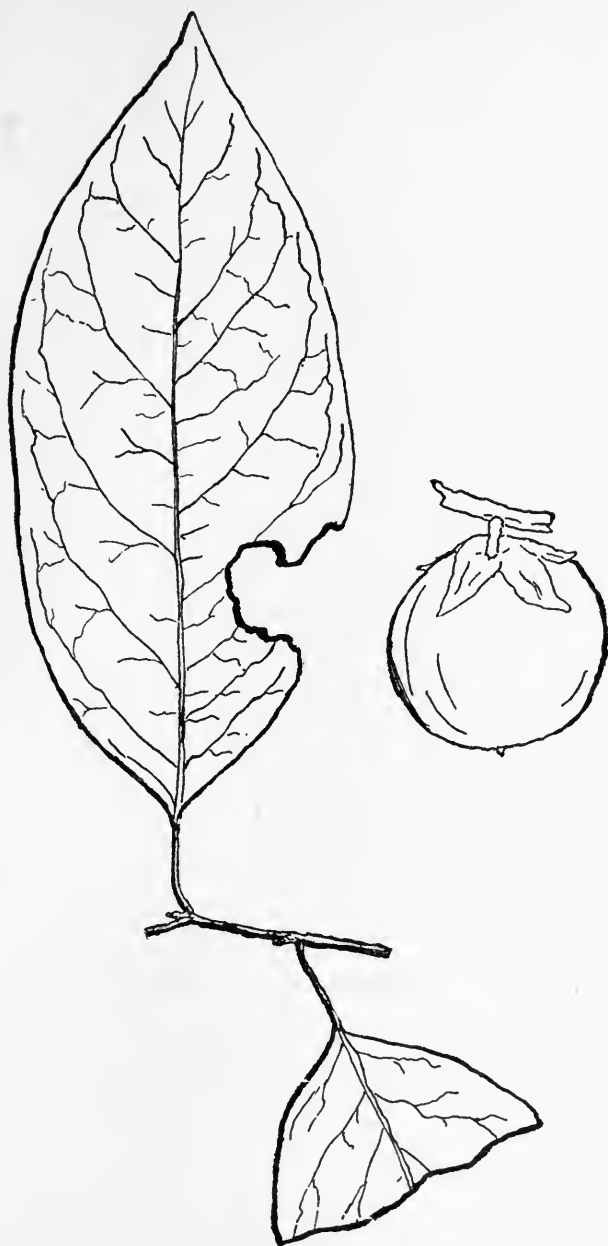


Fig. 7.—Persimmon. (*D. Virginiana*, L.)
NATURAL SIZE.

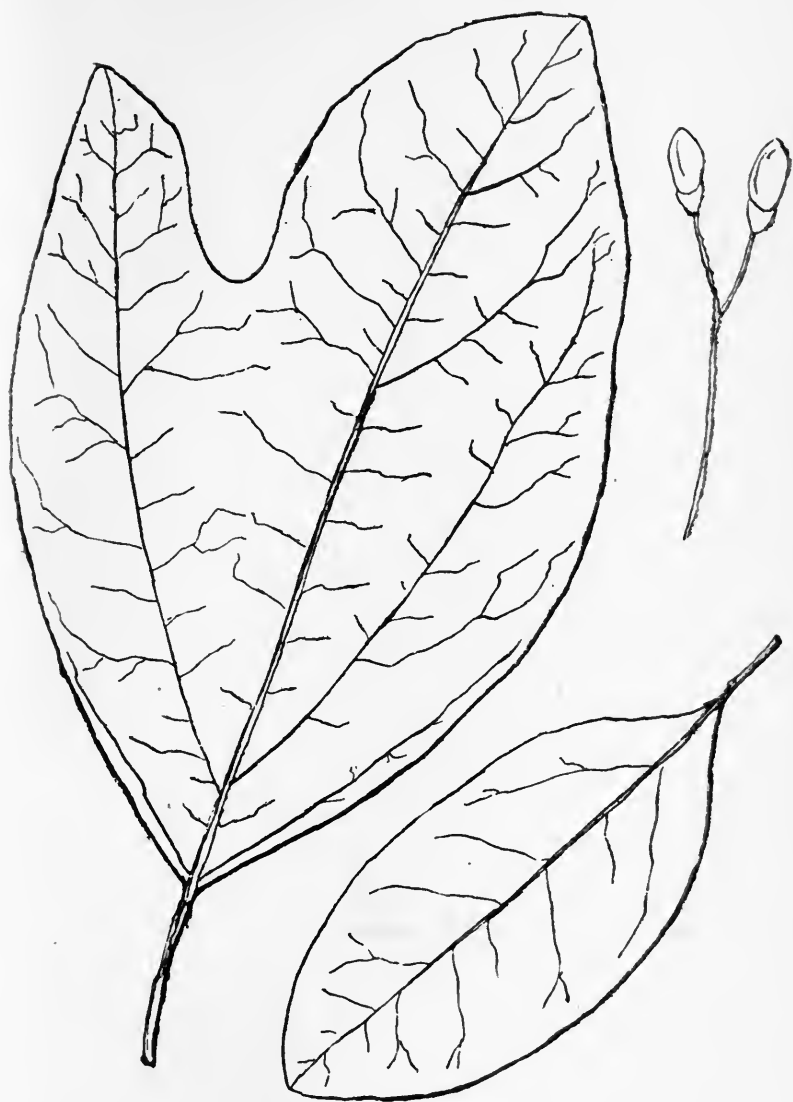


Fig. 8.—*Sassafras*. (*S. officinale*, Nees.)
NATURAL SIZE.

TREES WITH SIMPLE LEAVES

LEAVES ALTERNATE

CONTINUED

(EDGE TOOTHED)

A II

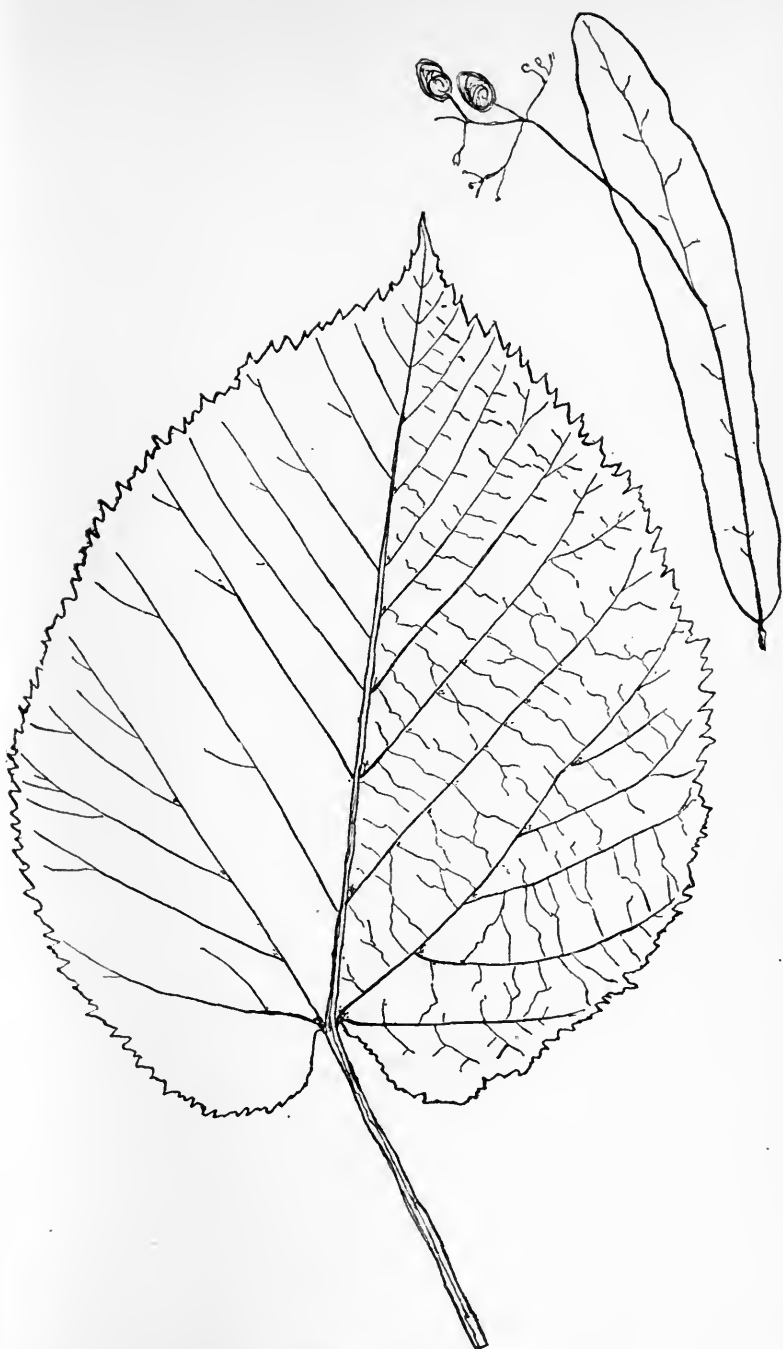
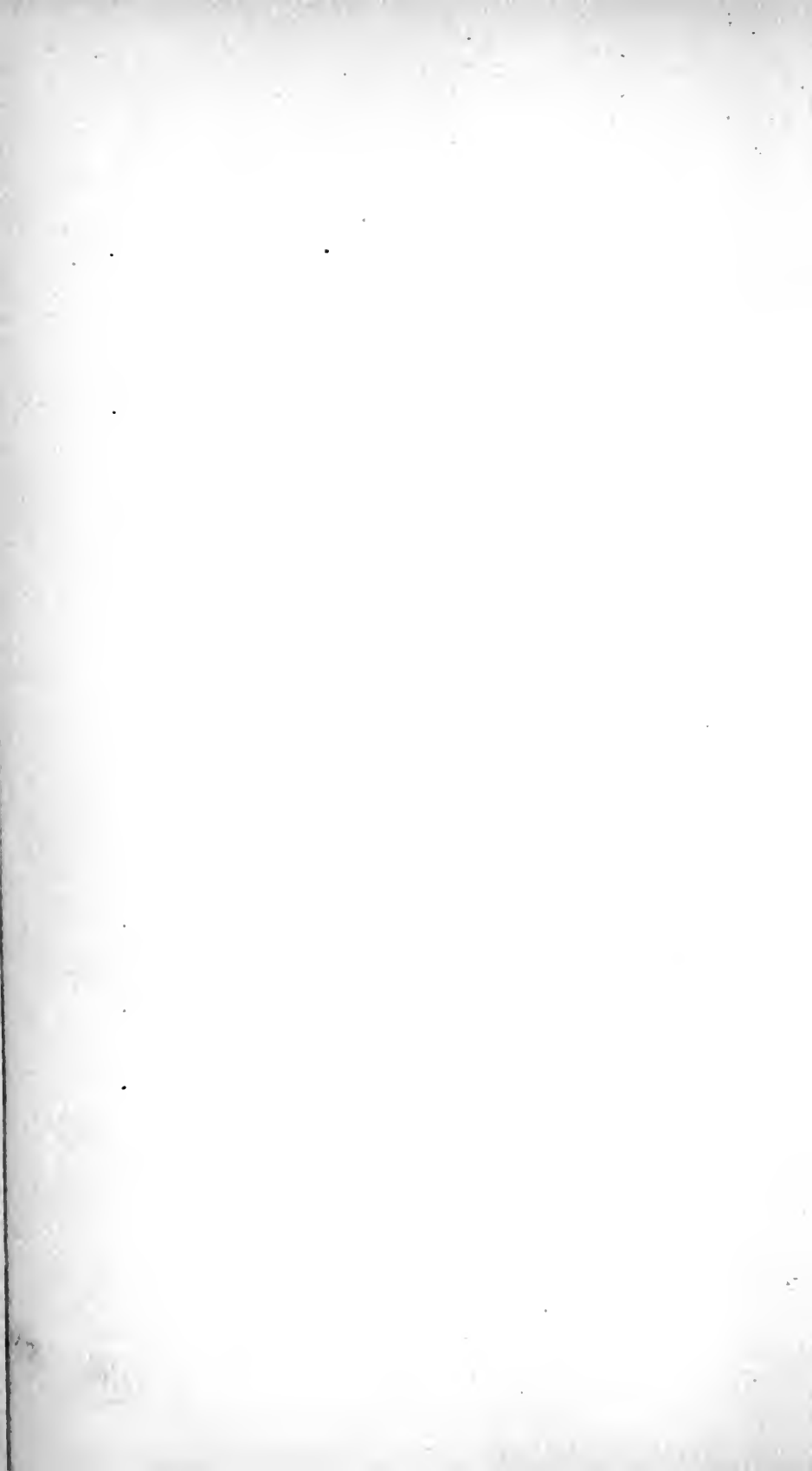


Fig. 9.—Basswood. (*T. Americana*, L.)

NATURAL SIZE.



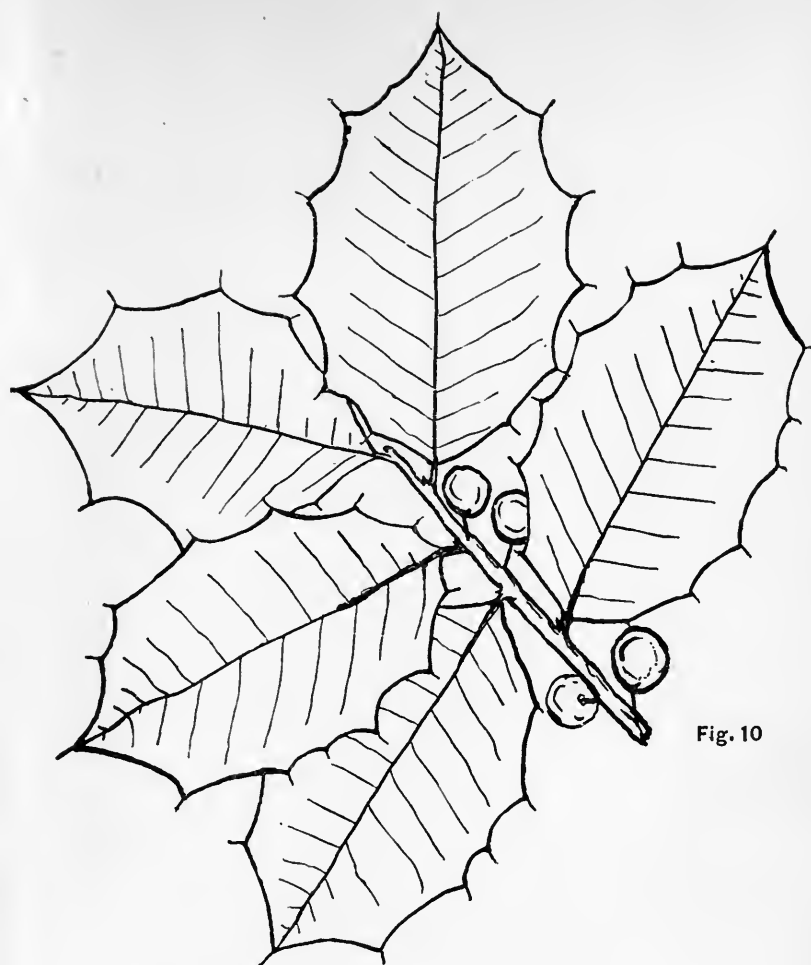


Fig. 10

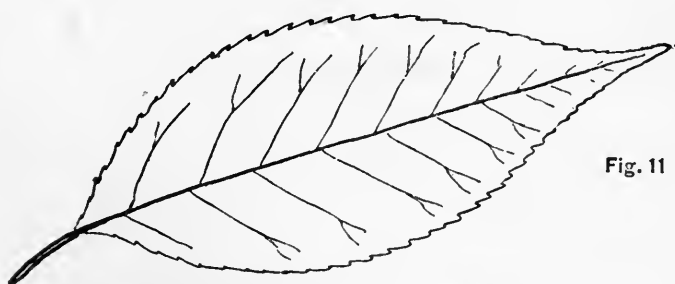


Fig. 11

Fig. 10.—American Holly. (*I. opaca*, Ait.)

Fig. 11.—*I. monticola*.

NATURAL SIZE.

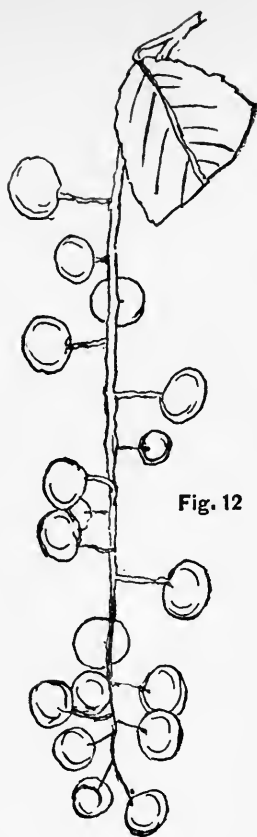


Fig. 12

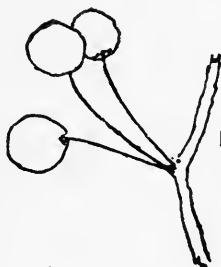


Fig. 13

Fig. 12.—Wild Black Cherry. (*P. serotina*, Ehr.)
 Fig. 13.—Wild Red Cherry. (*P. Pennsylvanica*, L).
 NATURAL SIZE.

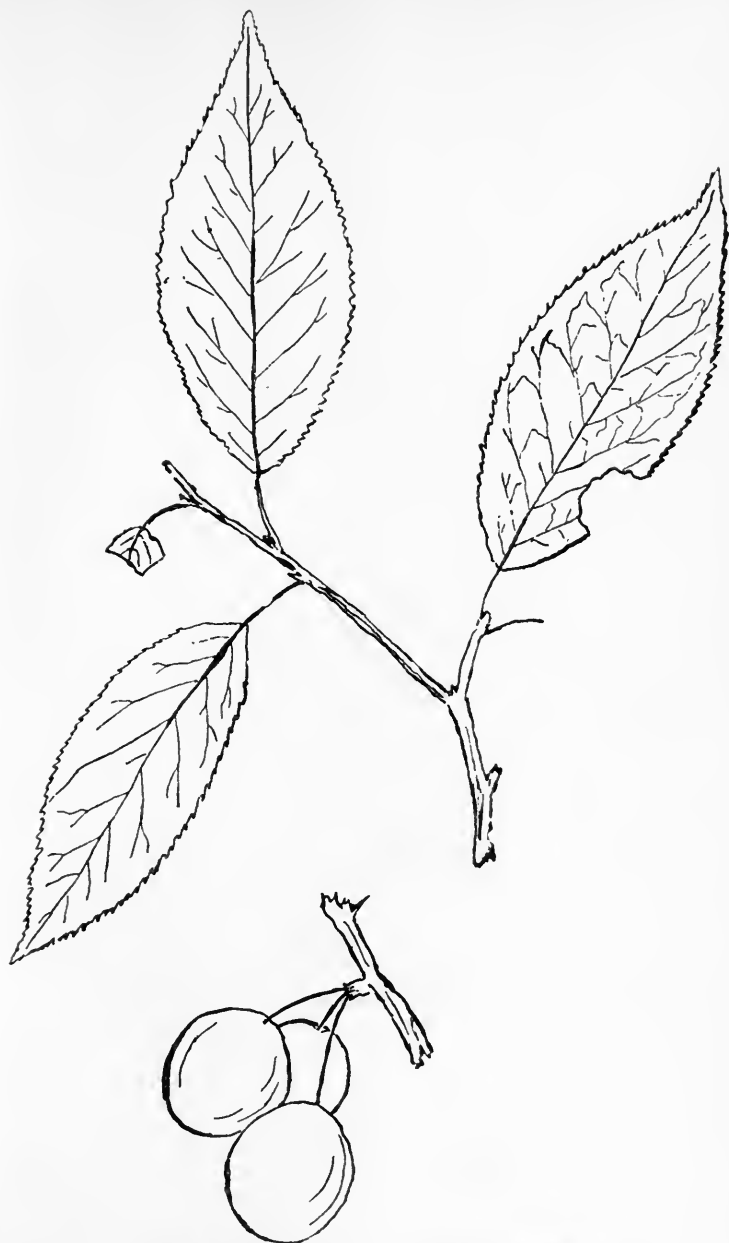


Fig. 14.—Wild Plum. (*P. Americana*, Marsh.)
NATURAL SIZE.



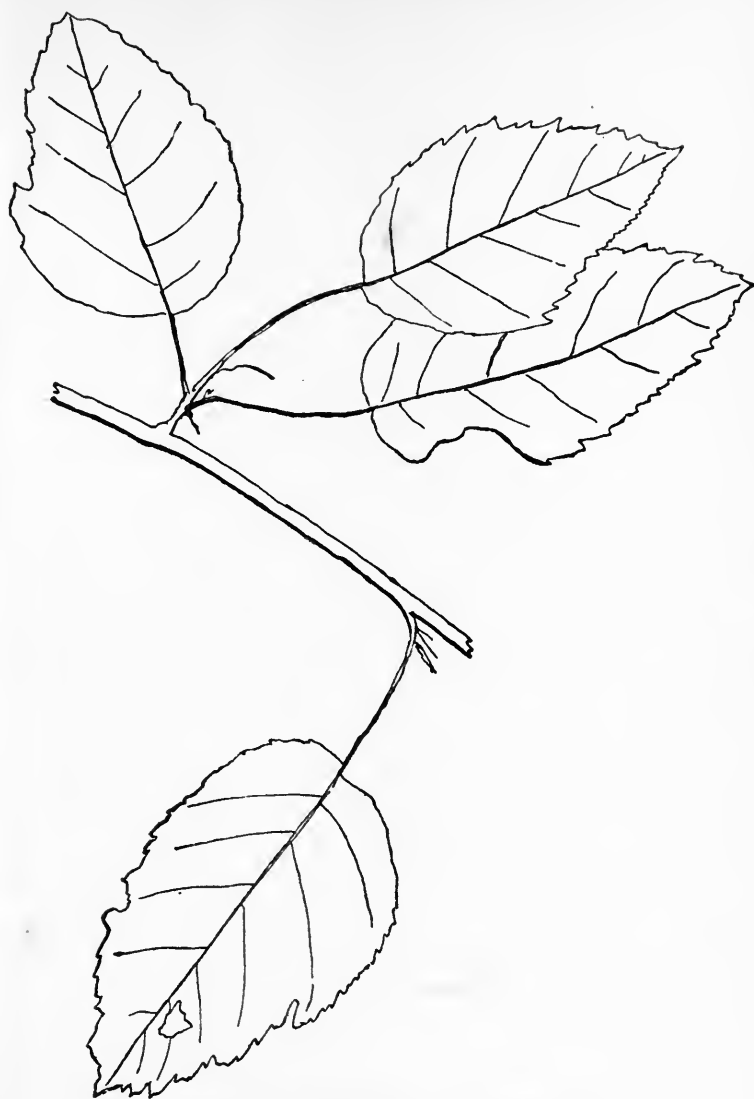


Fig. 15.—Crab-Apple. (*P. coronaria*, L.)
NATURAL SIZE.



Fig. 16

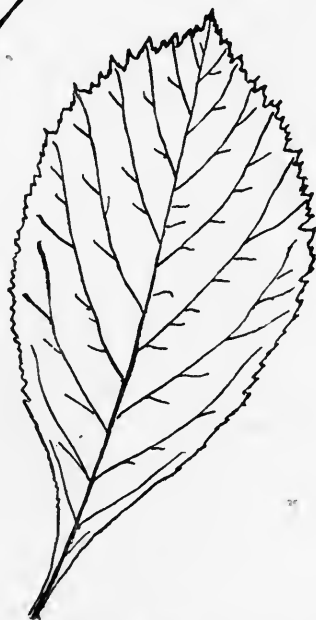
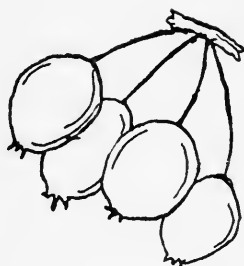


Fig. 17

Fig. 16.—White Thorn and Fruit. (*C. coccinea*, L.)

Fig. 17.—Black Thorn. (*C. tomentosa*, L.)

NATURAL SIZE.

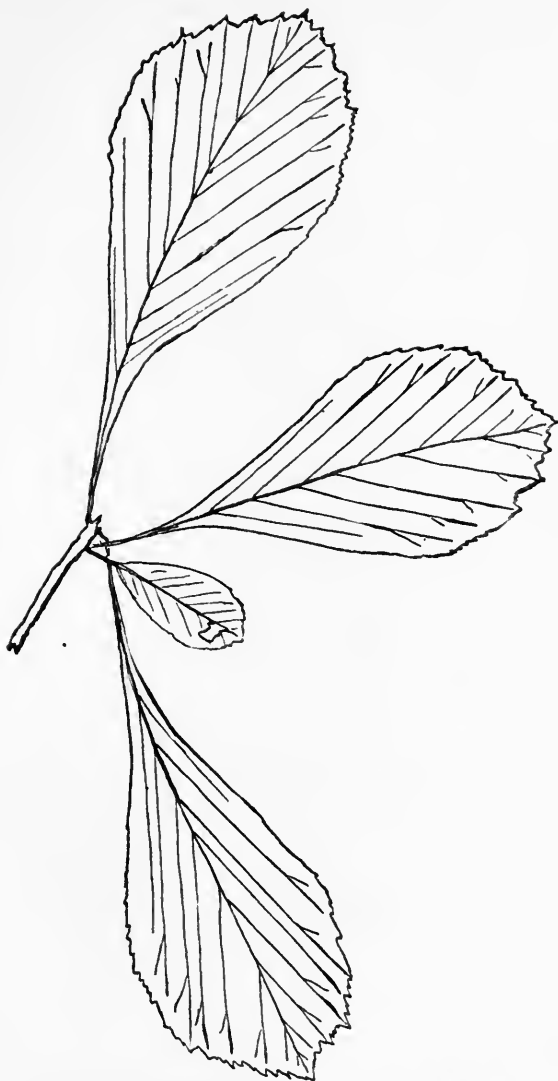


Fig. 18.—Common Thorn. (*C. punctata*, Jac.)
NATURAL SIZE.



Fig. 19.—Cockspur Thorn. (*C. crus-galli*, L.)
NATURAL SIZE.

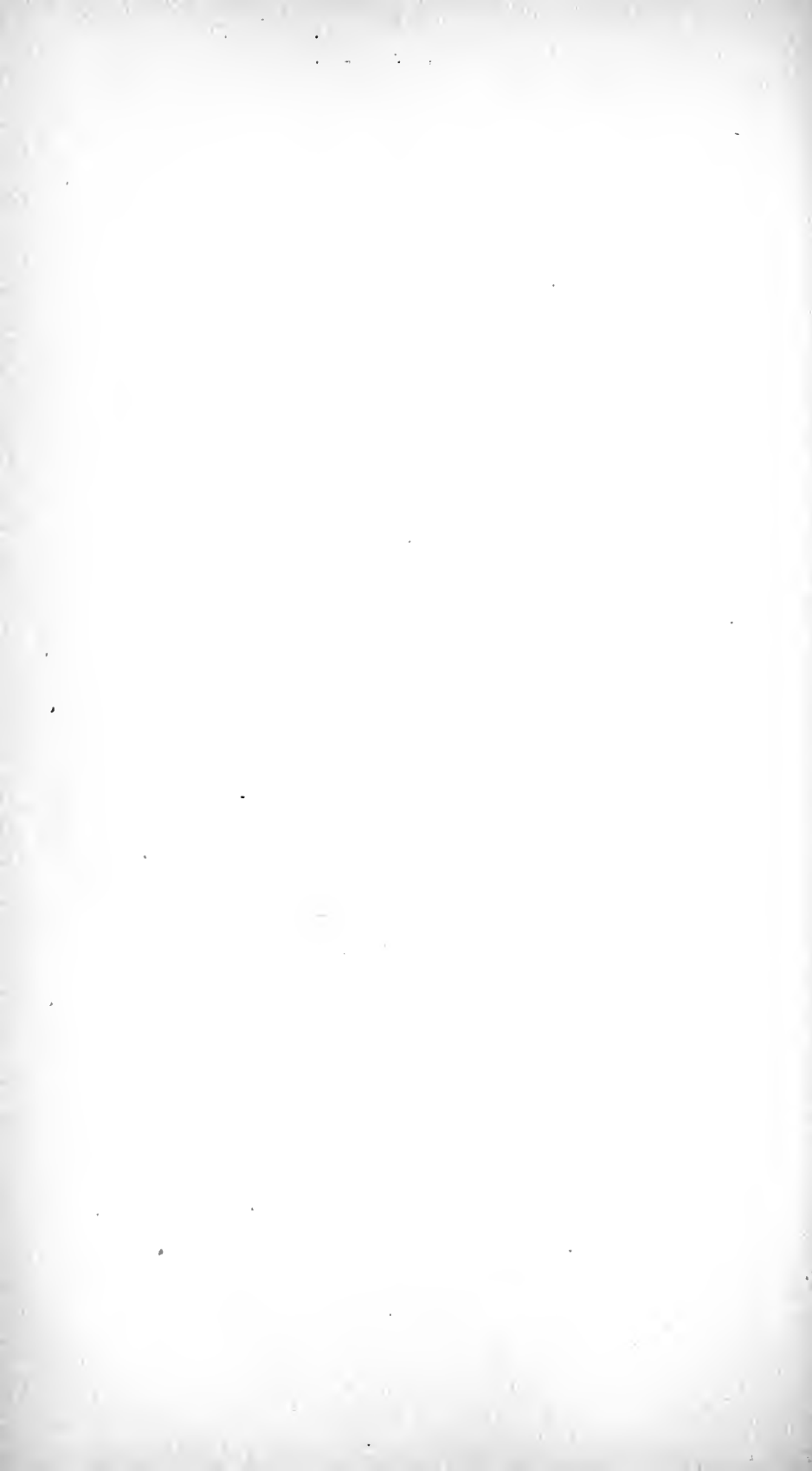




Fig. 20.—Shad-bush. *A. Canadensis* (L.), Medik.
NATURAL SIZE.

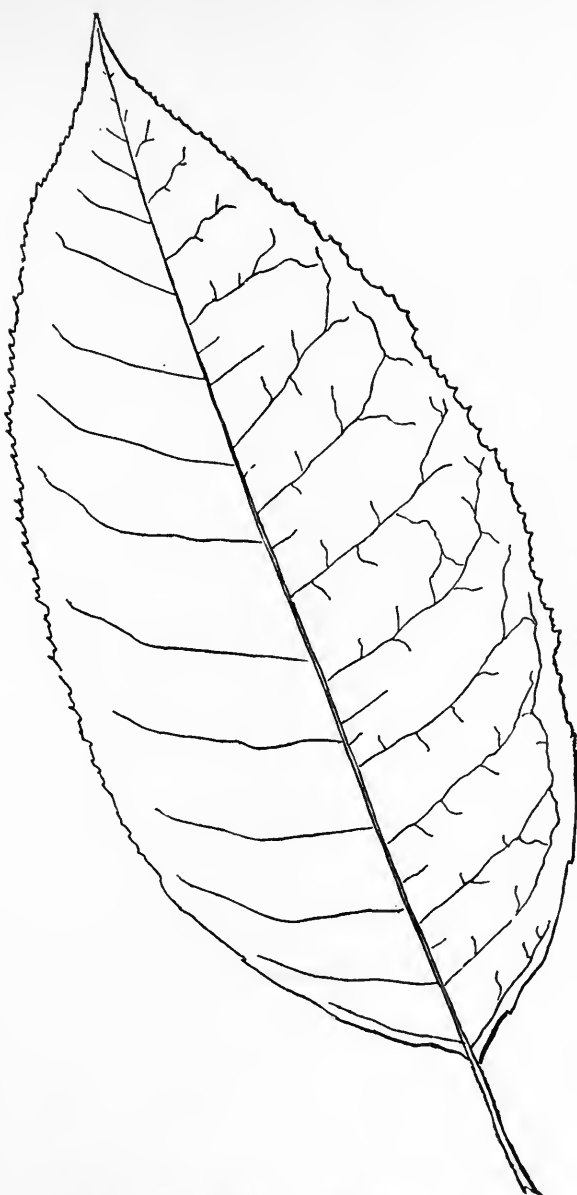
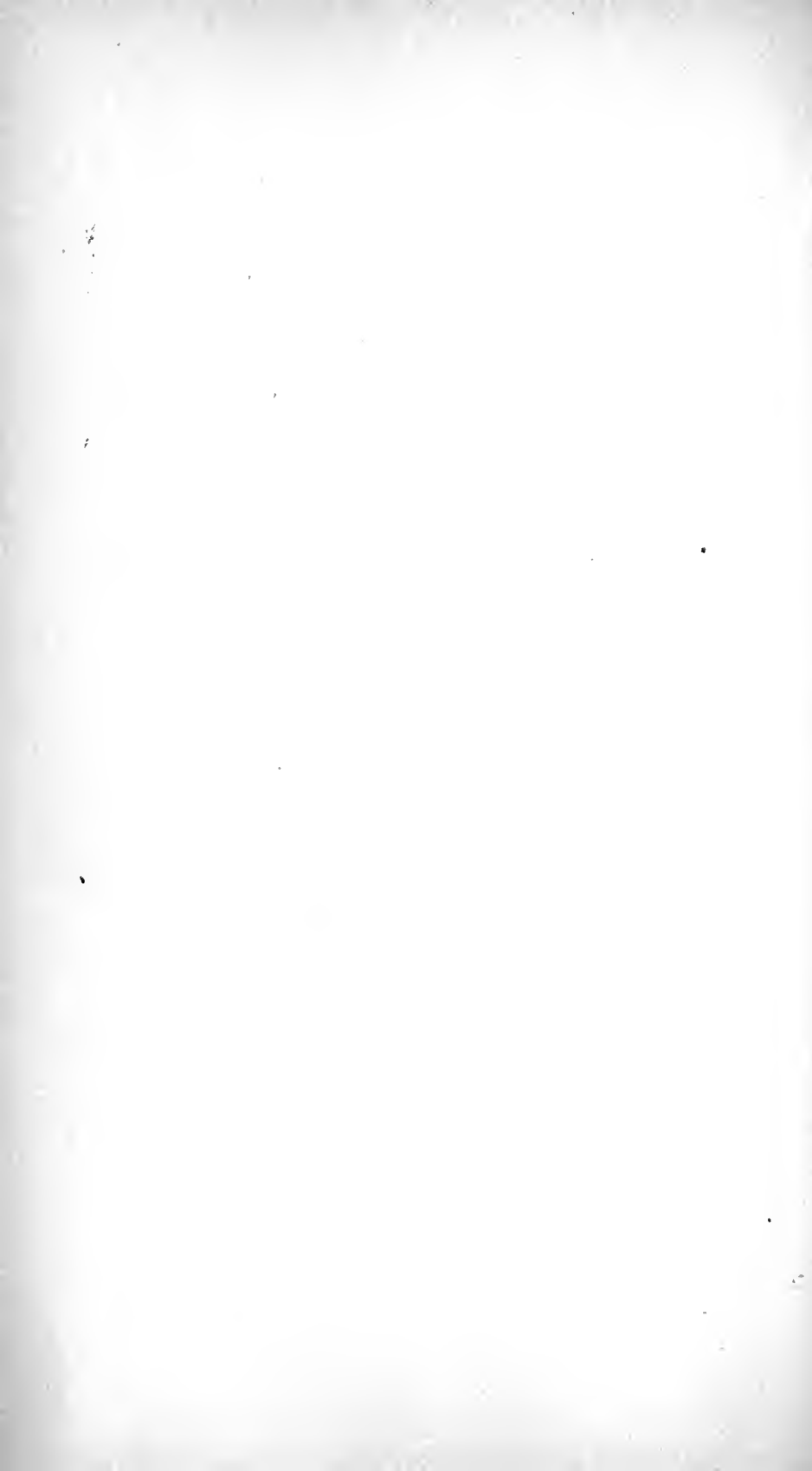


Fig. 21.—Sorrel Tree. *O. arborea* (L.), D. C.
NATURAL SIZE.



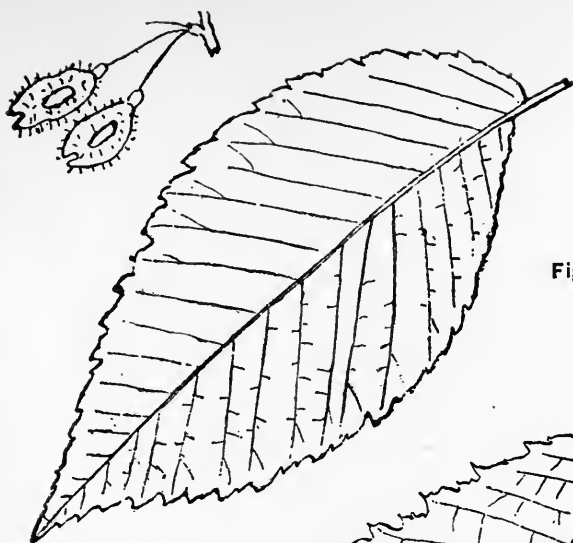


Fig. 22

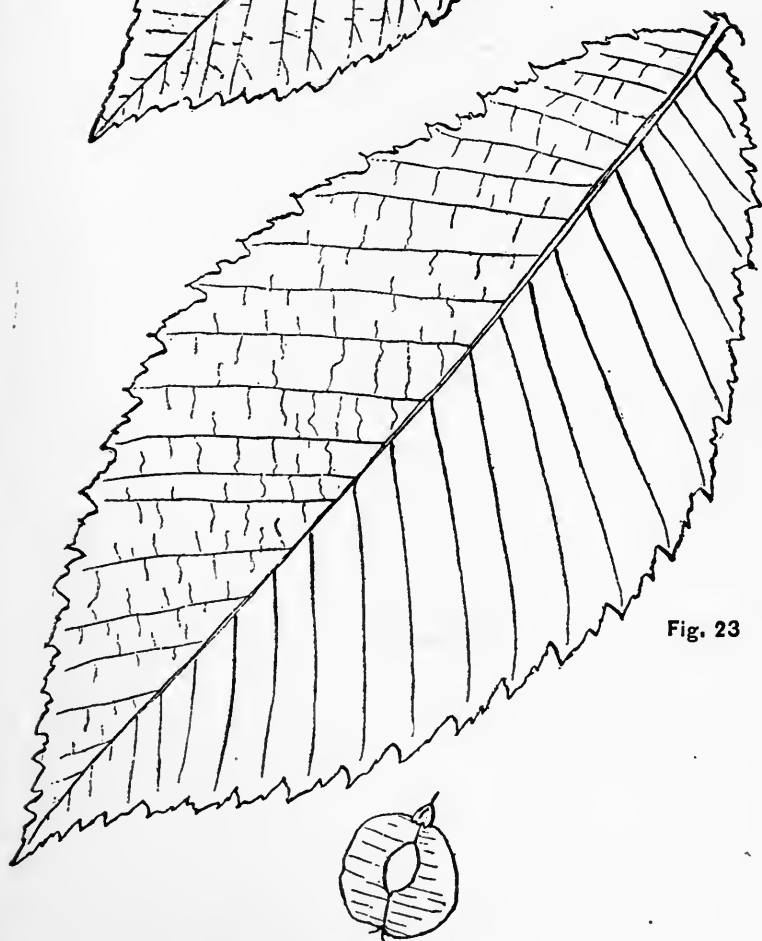


Fig. 23

Fig. 22.—White Elm. (*U. Americana*, L.)
 Fig. 23.—Slippery Elm. (*U. fulva*, Michaux.)

NATURAL SIZE.





Fig. 24.—Hackberry. (*C. occidentalis*, L.)
NATURAL SIZE.



Fig. 25.—Red Mulberry. (*M. rubra*, L.)

NATURAL SIZE.



Fig. 26.—Buttonwood. (*P. occidentalis*, L.)
NATURAL SIZE.

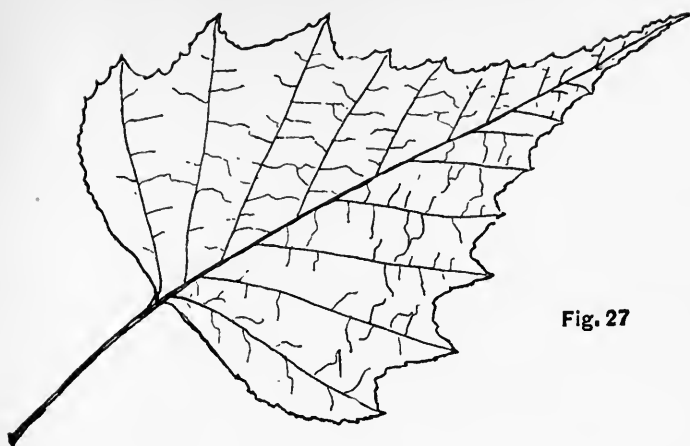


Fig. 27

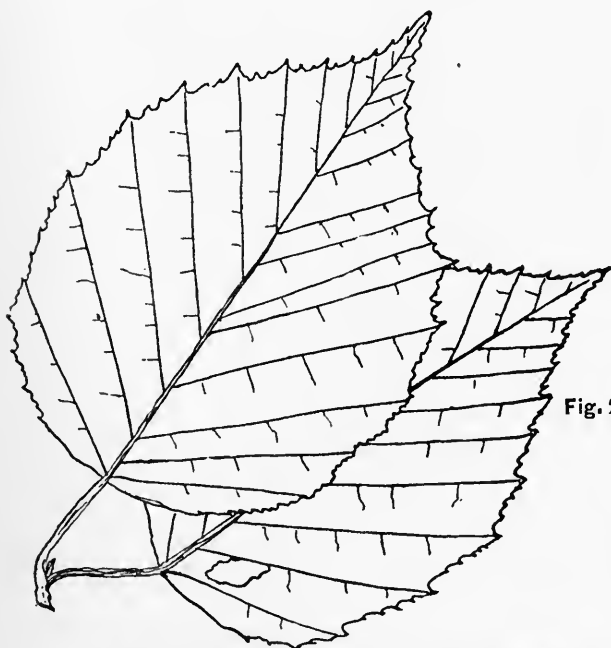


Fig. 28

Fig. 27.—White Birch. (*B. populifolia*, Marsh.)

Fig. 28.—Paper Birch. (*B. papyrifera*, Marsh.)

NATURAL SIZE.

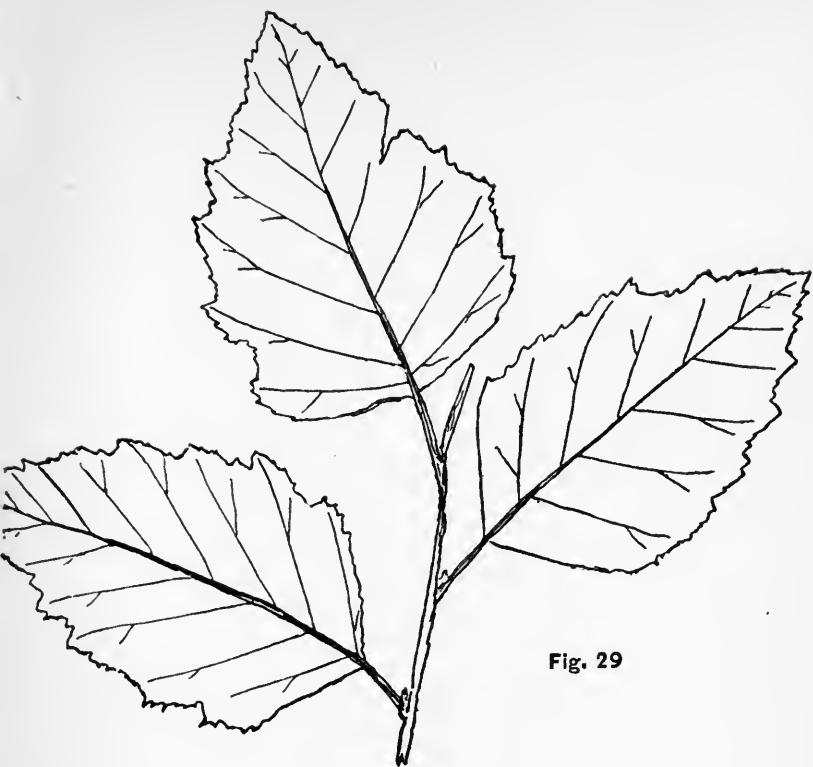


Fig. 29

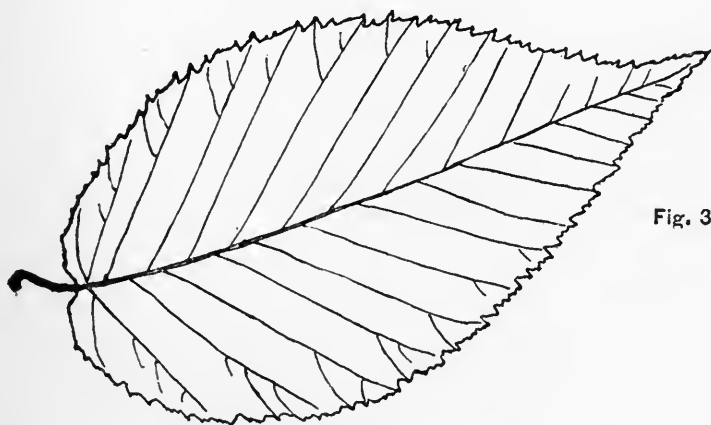


Fig. 30

Fig. 29.—Red Birch. (*B. nigra*, L.)

Fig. 30.—Yellow Birch. (*B. lutea*, Michaux, f.)

NATURAL SIZE.



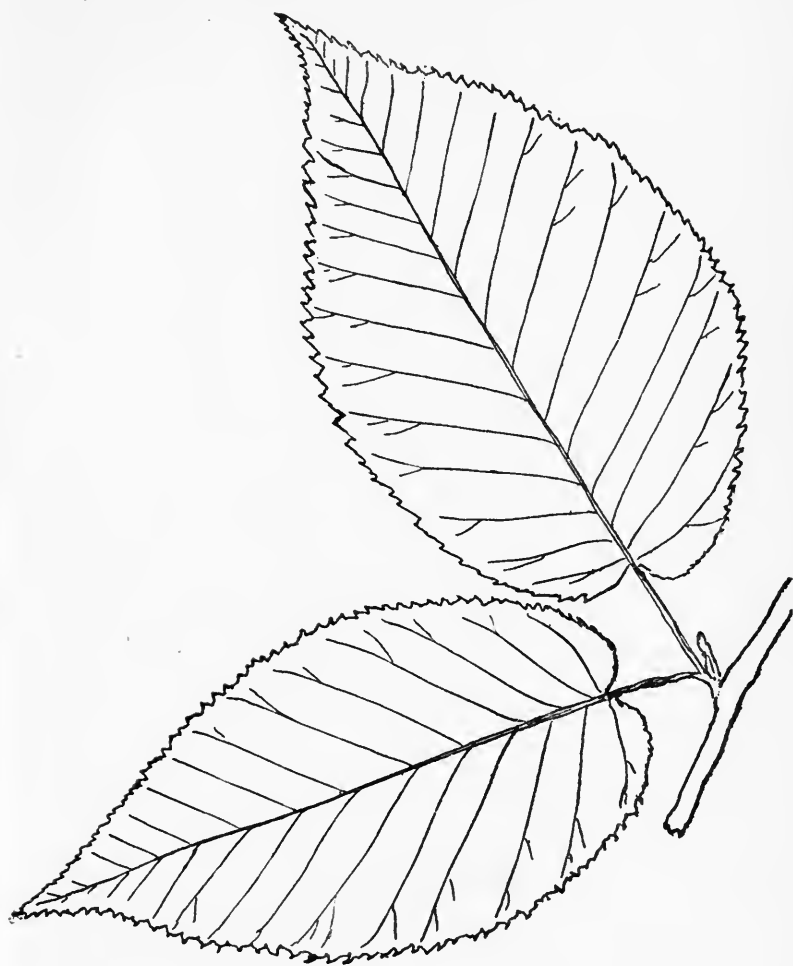
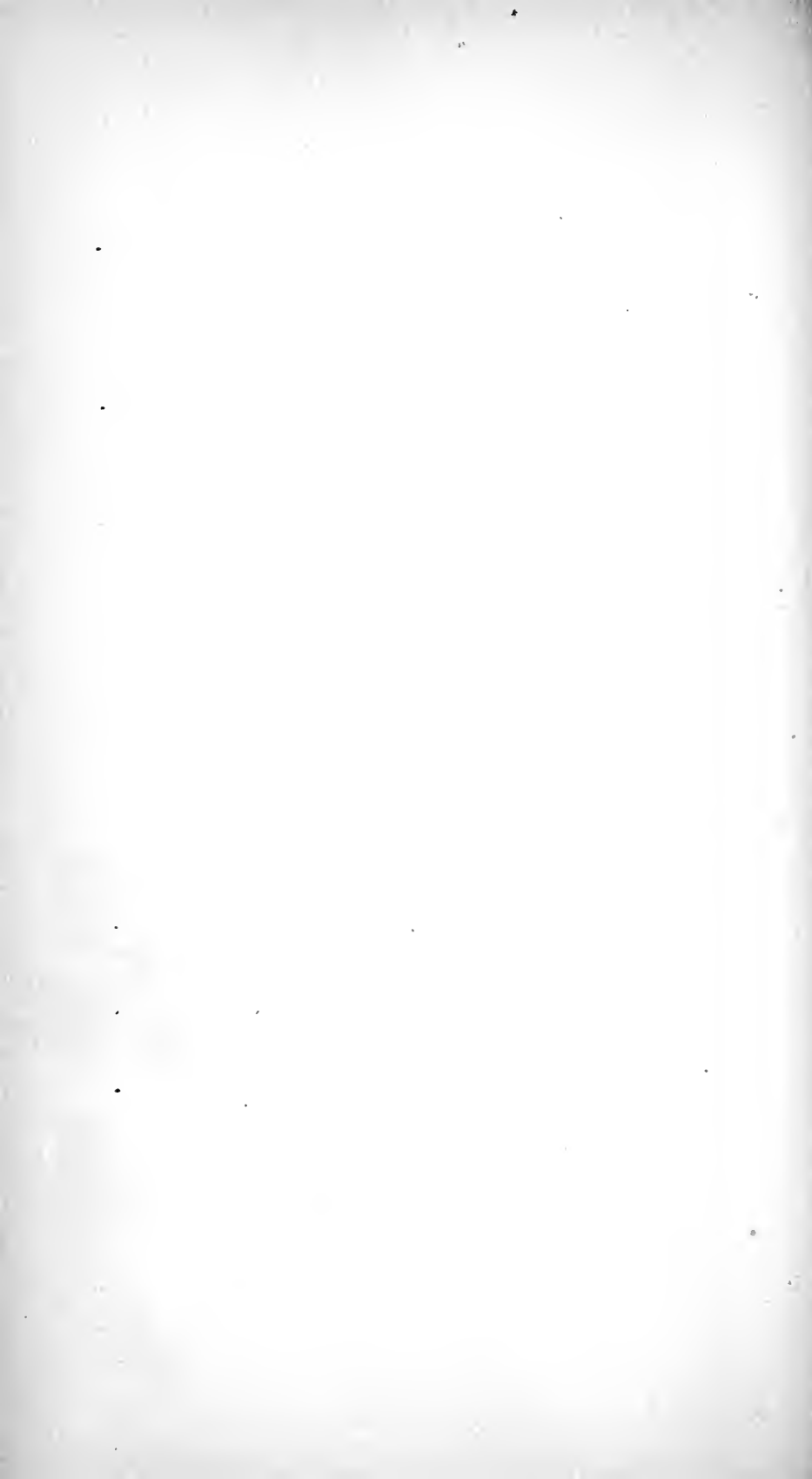


Fig. 31.—Sweet Birch. (*B. lenta*, L.)
NATURAL SIZE.



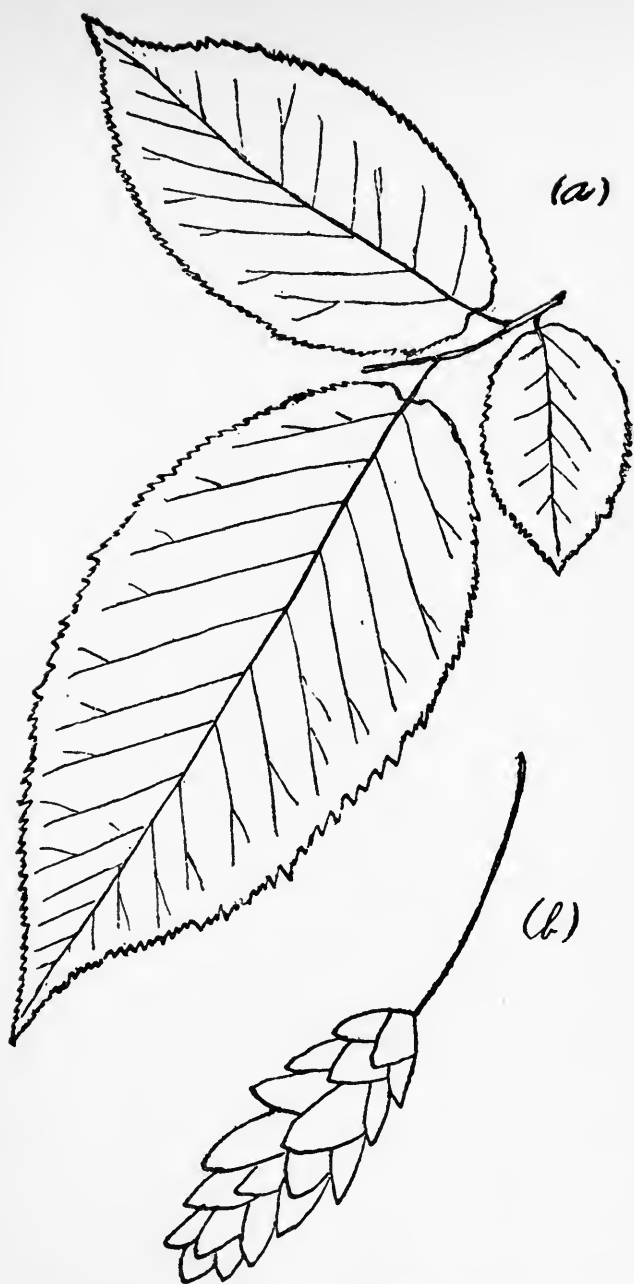
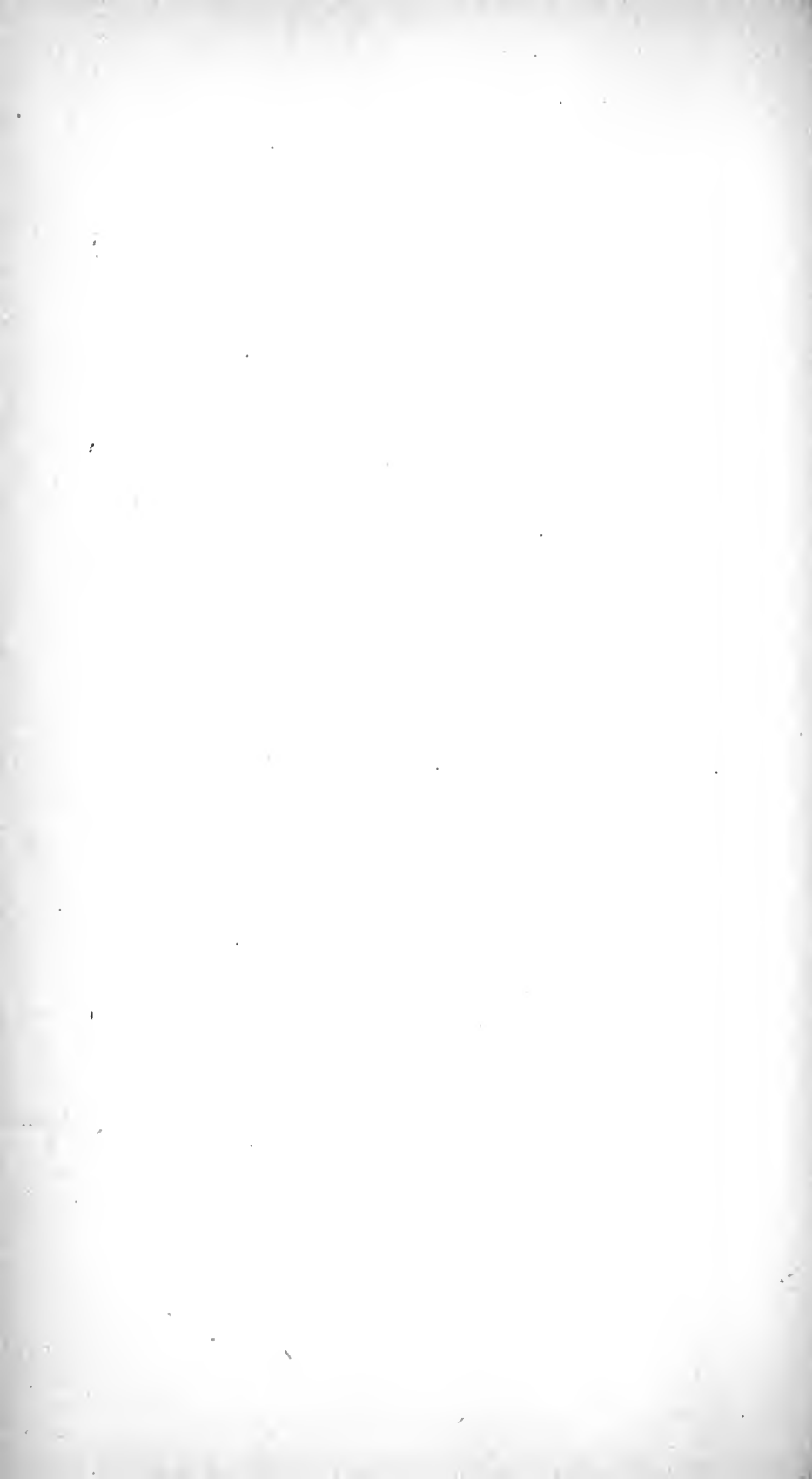


Fig. 32.—Hop-Hornbeam. *O. Virginiana* (Mill), Willd.

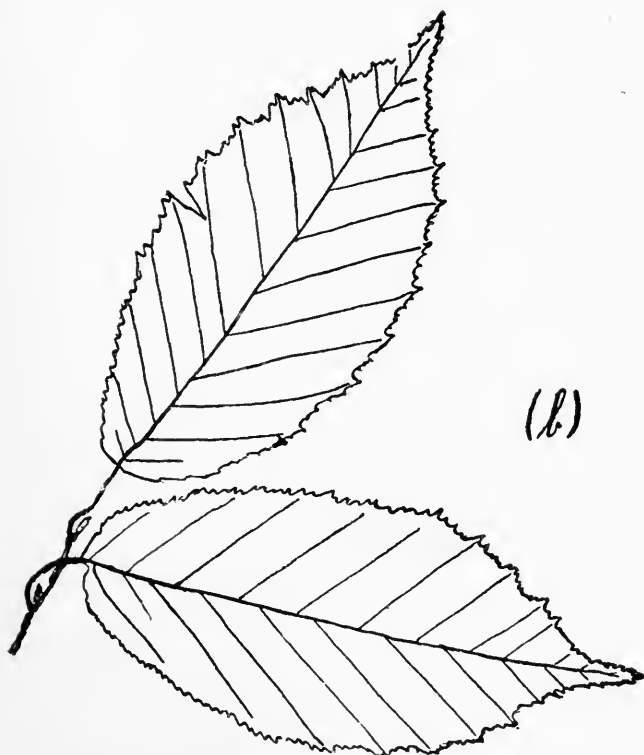
a. Leaves. *b.* Fruit.

NATURAL SIZE.





(a)



(b)

Fig. 33.—Hornbeam. (*C. Caroliniàna*, Walt.)

a. Fruit scales. *b.* Leaves.

NATURAL SIZE.



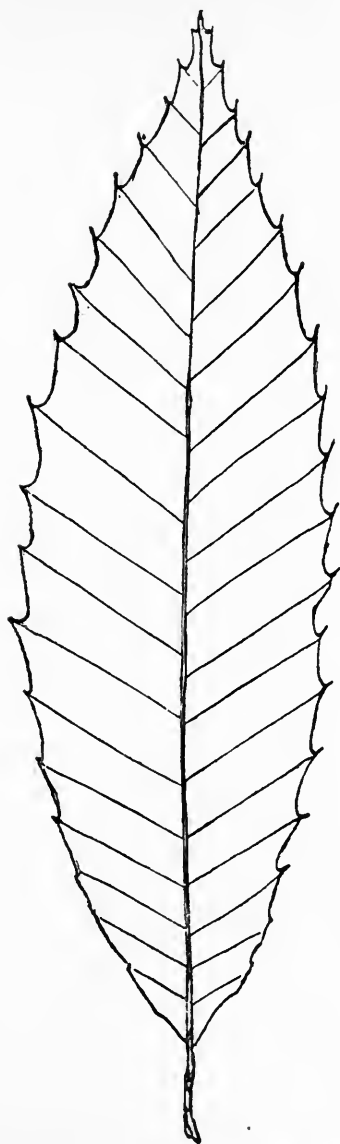


Fig. 34.—Chestnut. *C. Sativa* (L.), var. *Americana* (Michaux), Sarg.
NATURAL SIZE.

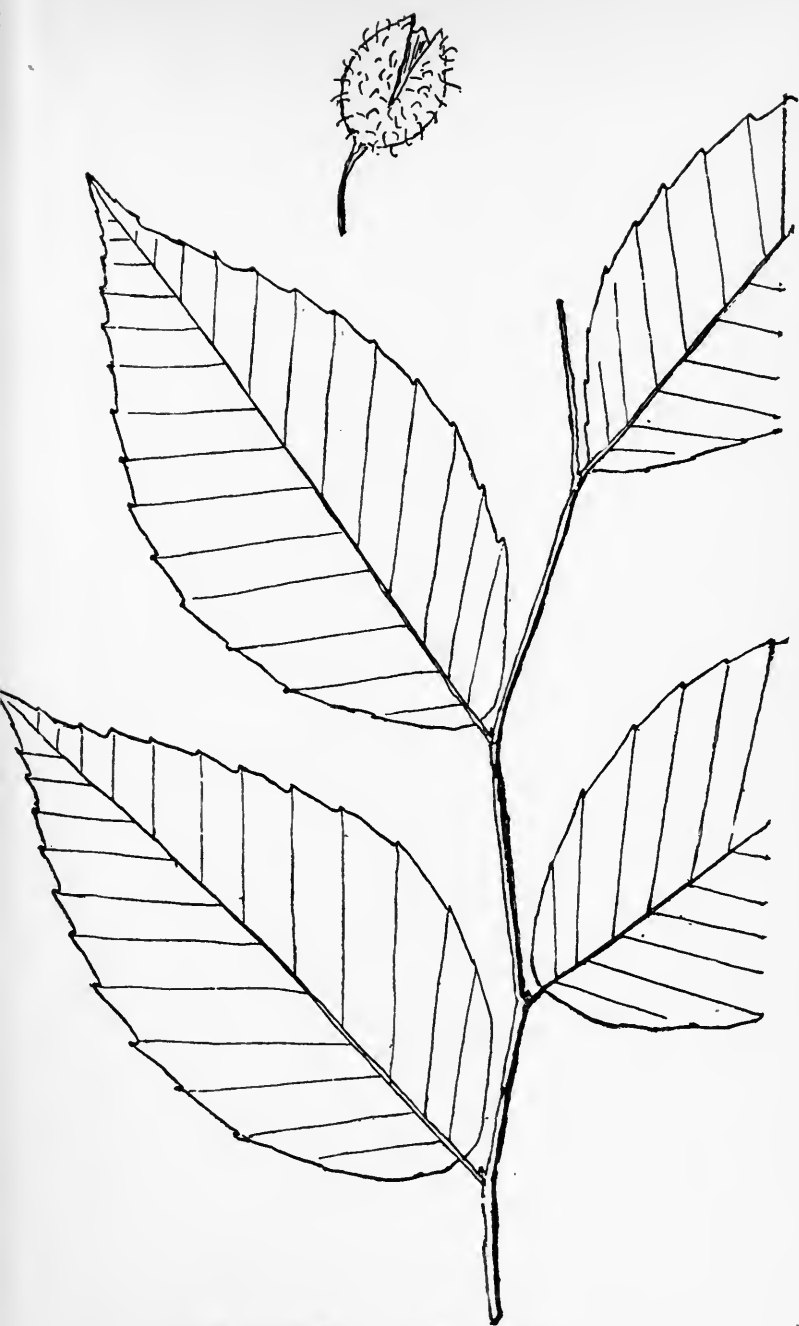
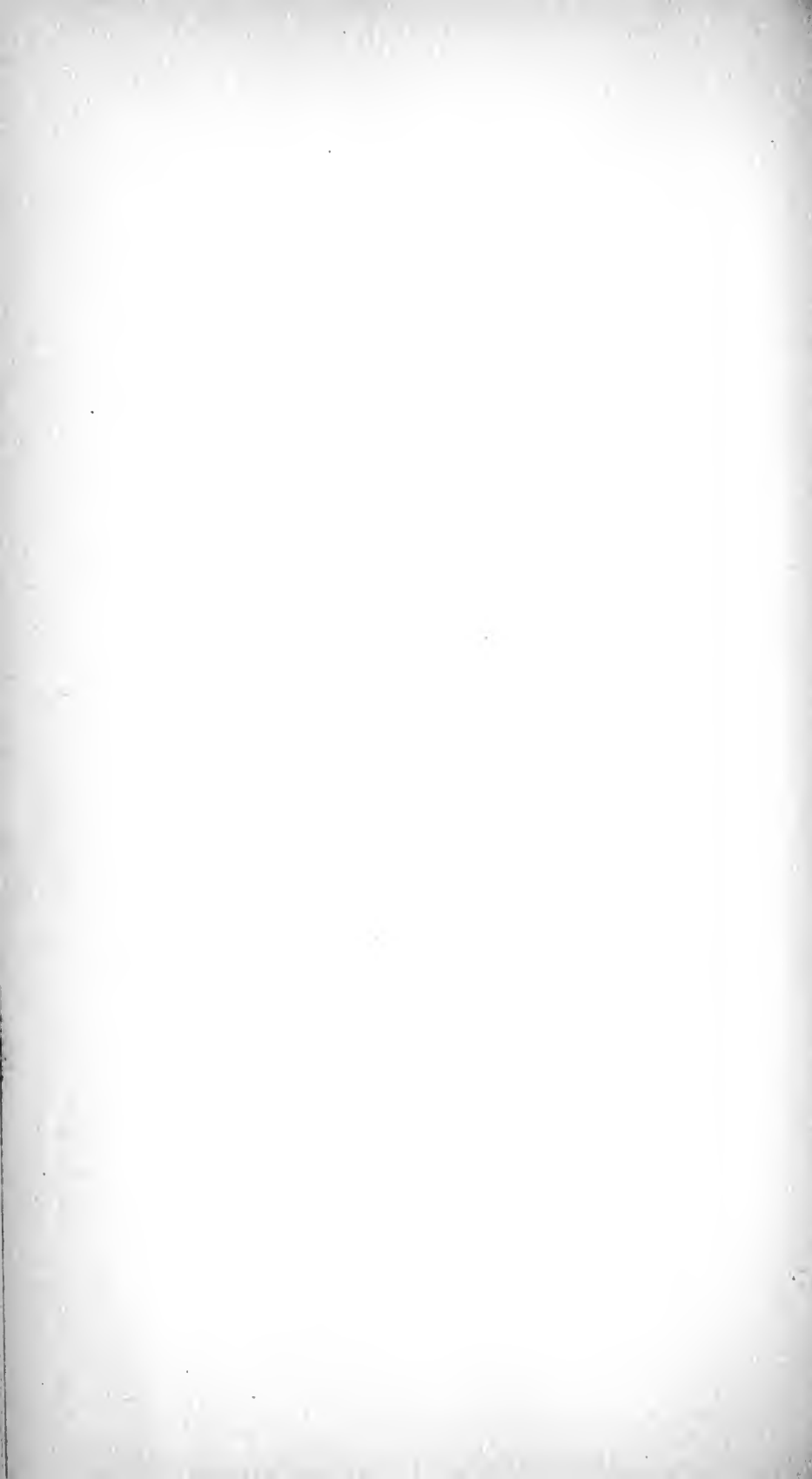


Fig. 35.—Beech. (*F. ferruginea*, Ait.)
NATURAL SIZE.



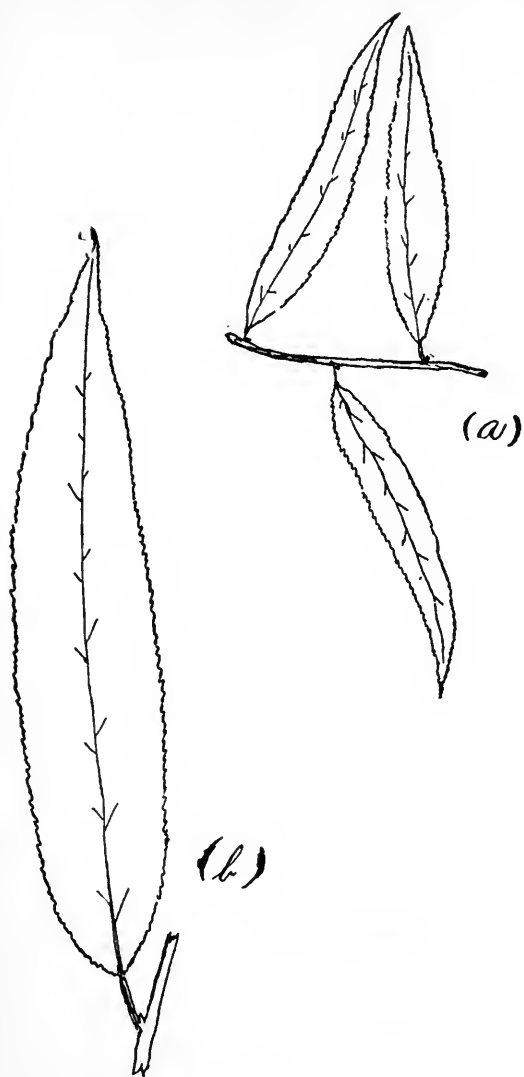


Fig. 36.—Black Willow. (*S. nigra*, Marsh.)

a. Commonest form. *b.* Large form.

NATURAL SIZE.

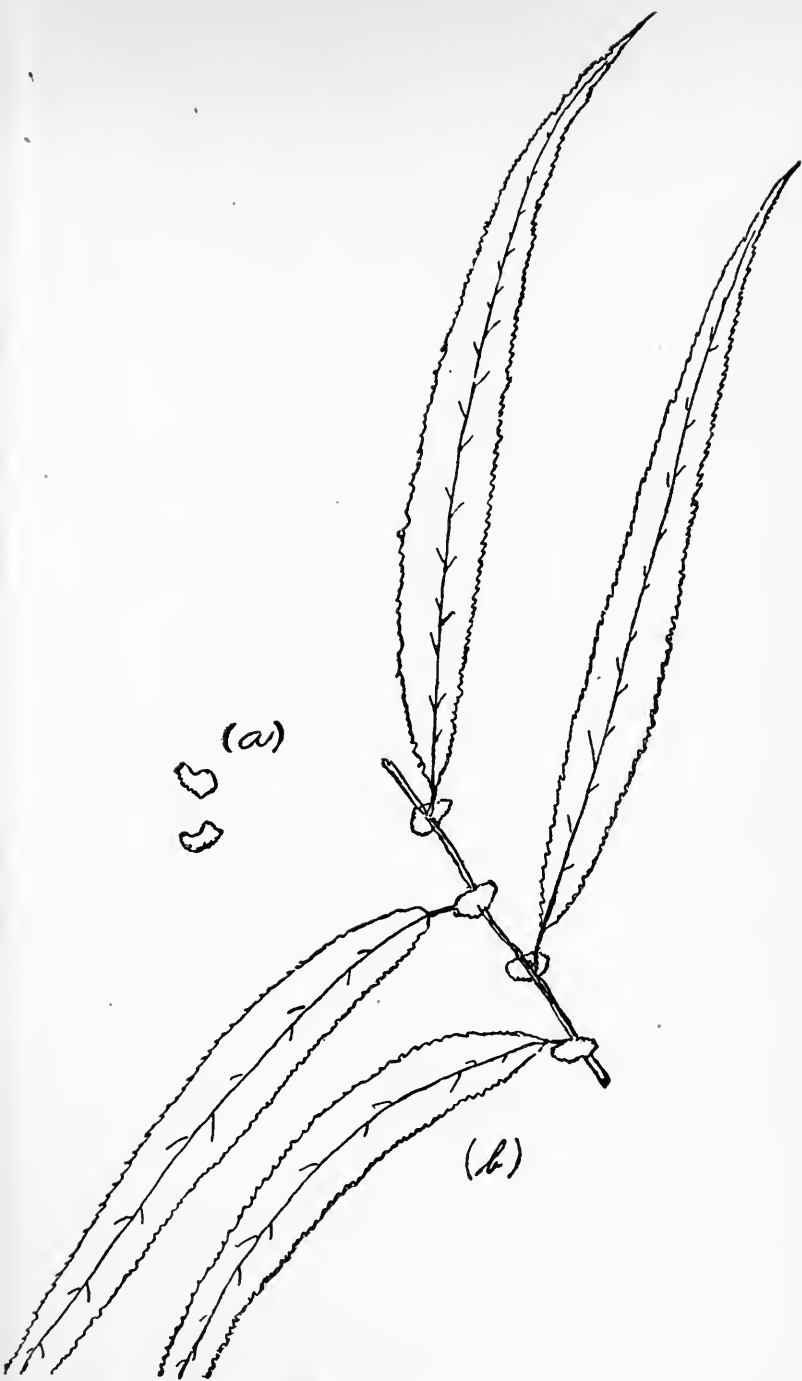


Fig. 37.—Scythe-leaved Willow. (*S. n.*, var. *falcata*, Torr.)

a. Stipules. *b.* Leaves.

NATURAL SIZE.



Fig. 38.—Shining Willow. (*S. lucida*, Muhl.)
NATURAL SIZE.



Fig. 39.—Long-beaked Willow. (*S. rostrata*, Richards.)
NATURAL SIZE.

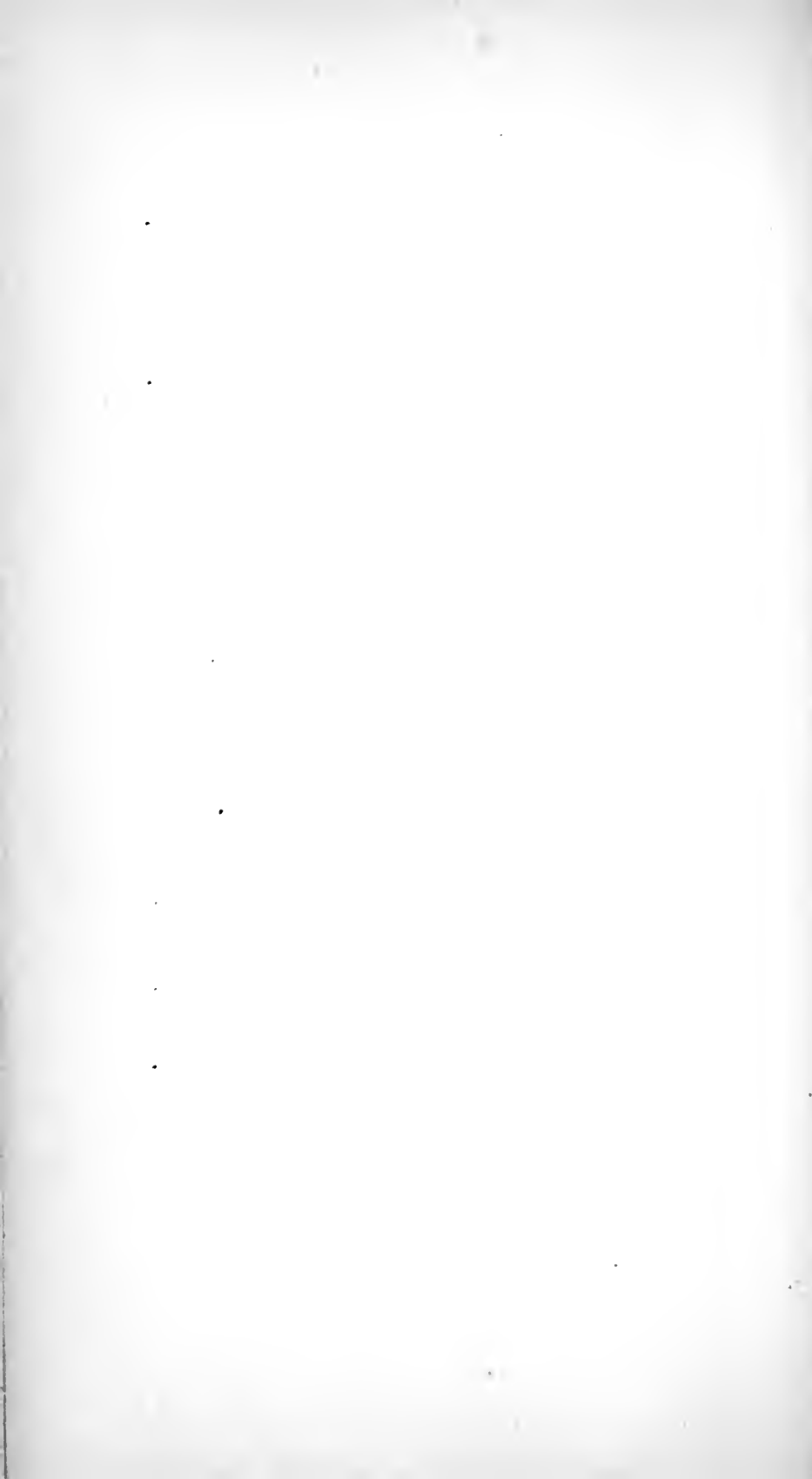


Fig. 40

Fig. 43

Fig. 41

Fig. 42

Fig. 40.—White Willow. [*S. alba*, L.]

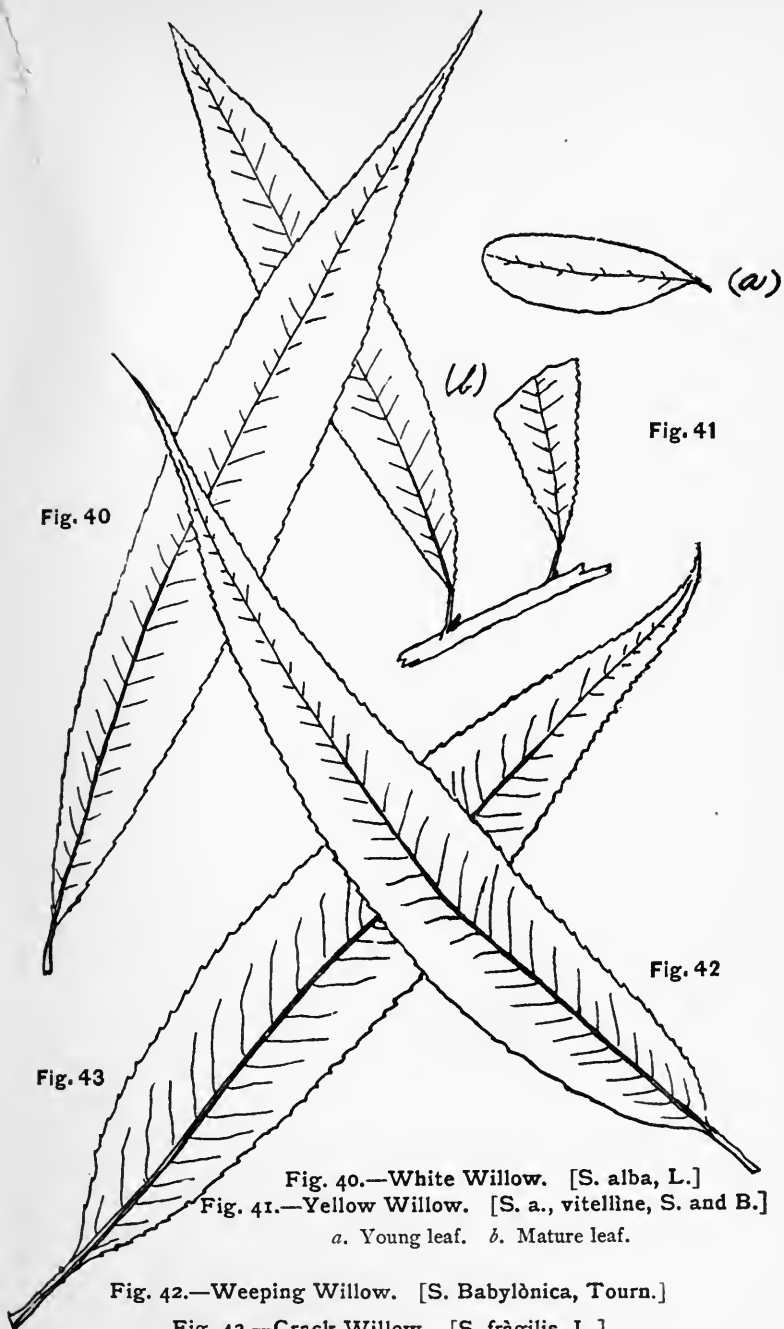
Fig. 41.—Yellow Willow. [*S. a.*, vitellina, S. and B.]

a. Young leaf. *b.* Mature leaf.

Fig. 42.—Weeping Willow. [*S. Babylonica*, Tourn.]

Fig. 43.—Crack Willow. [*S. fragilis*, L.]

NATURAL SIZE.



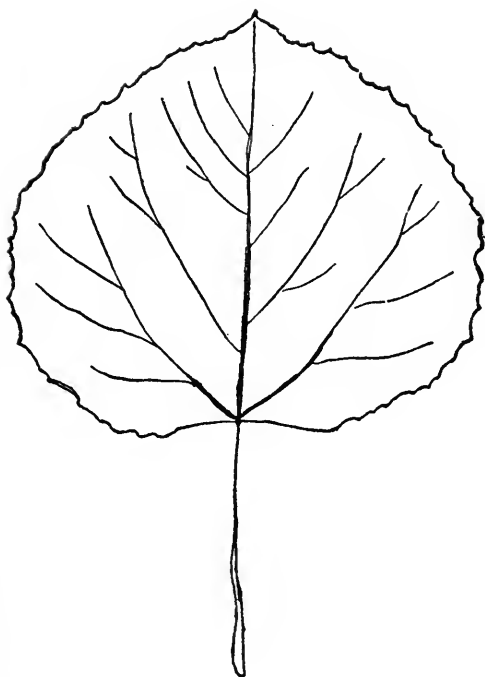
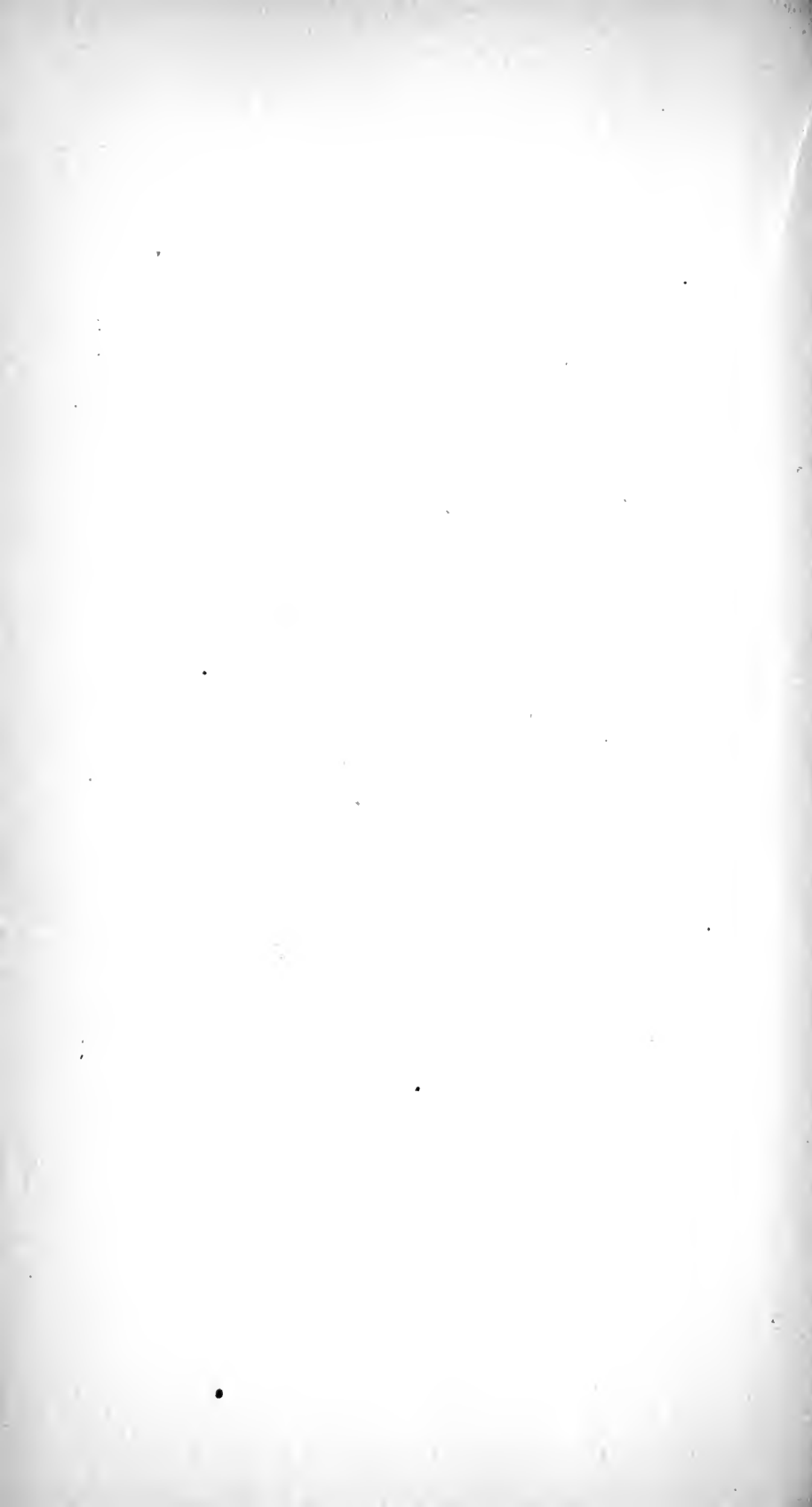


Fig. 44.—Aspen. (*P. tremuloides*, Michx.)
NATURAL SIZE.



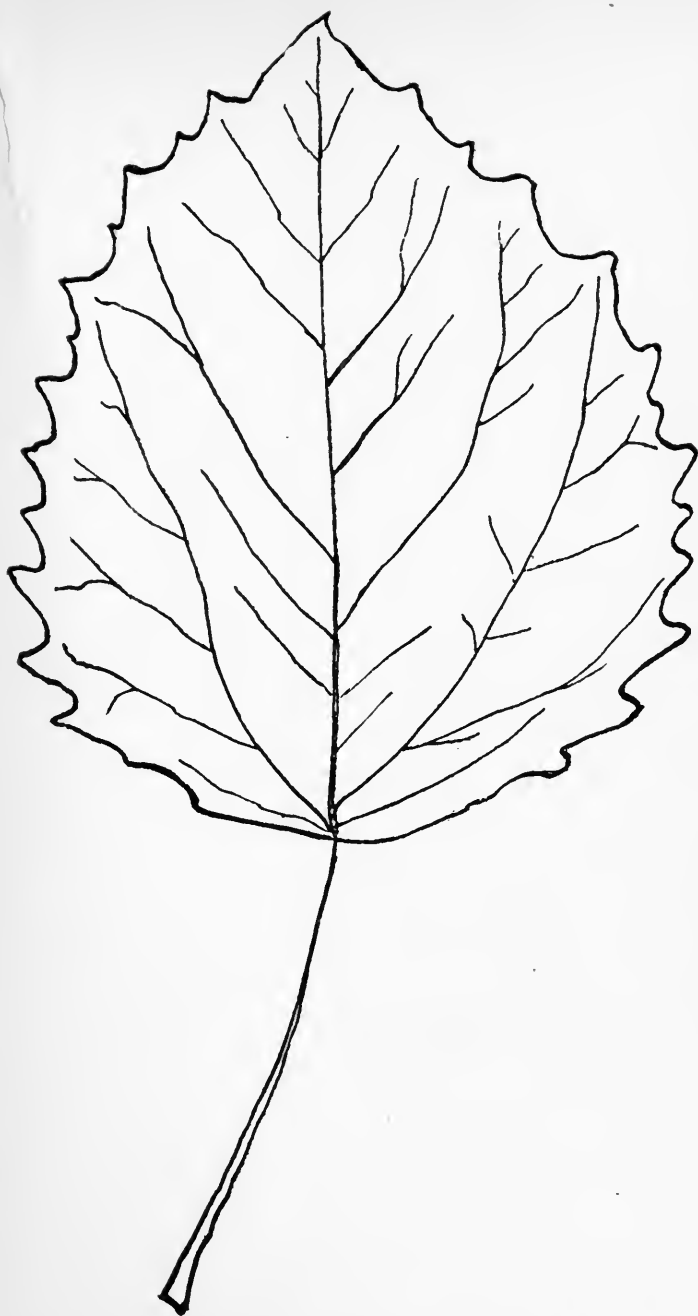


Fig. 45.—Large Toothed Aspen. (*P. grandidentata*, Michx.)
NATURAL SIZE.





Fig. 46.—Downy-leaved Poplar. (*P. heterophylla*, L.)
NATURAL SIZE.

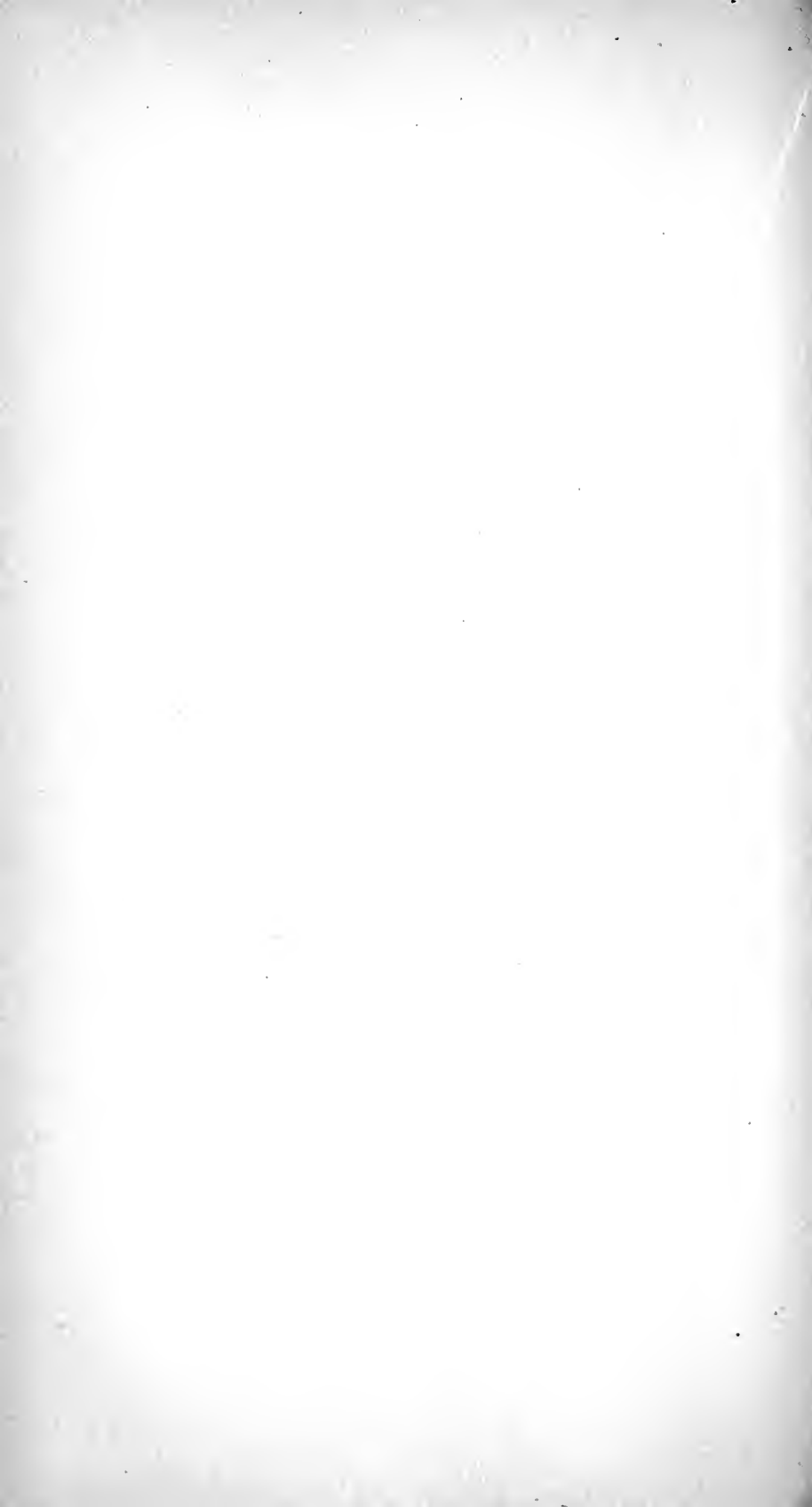




Fig. 47.—Cottonwood. (*P. monillifera*, Ait.)
NATURAL SIZE.

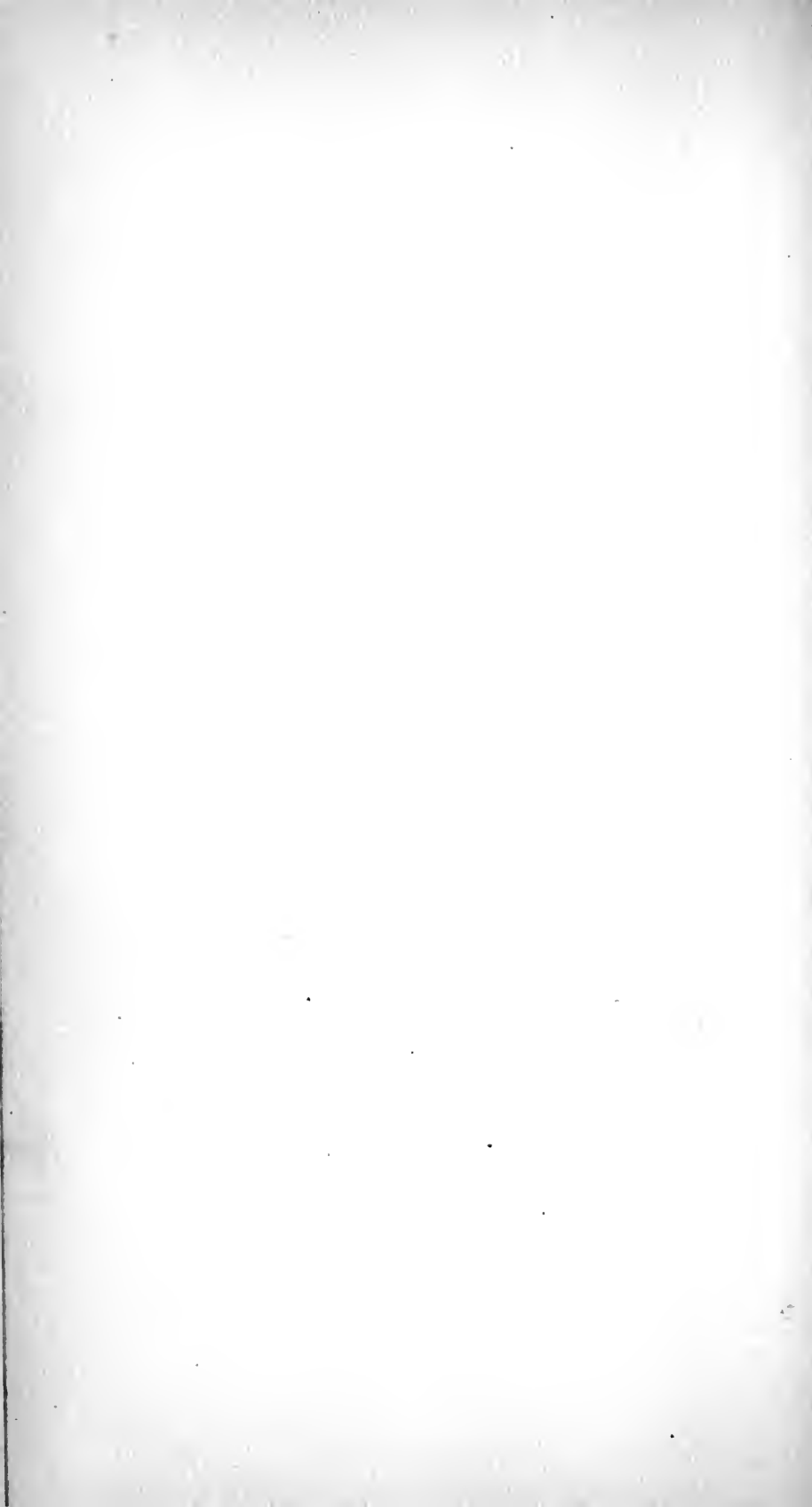




Fig. 48

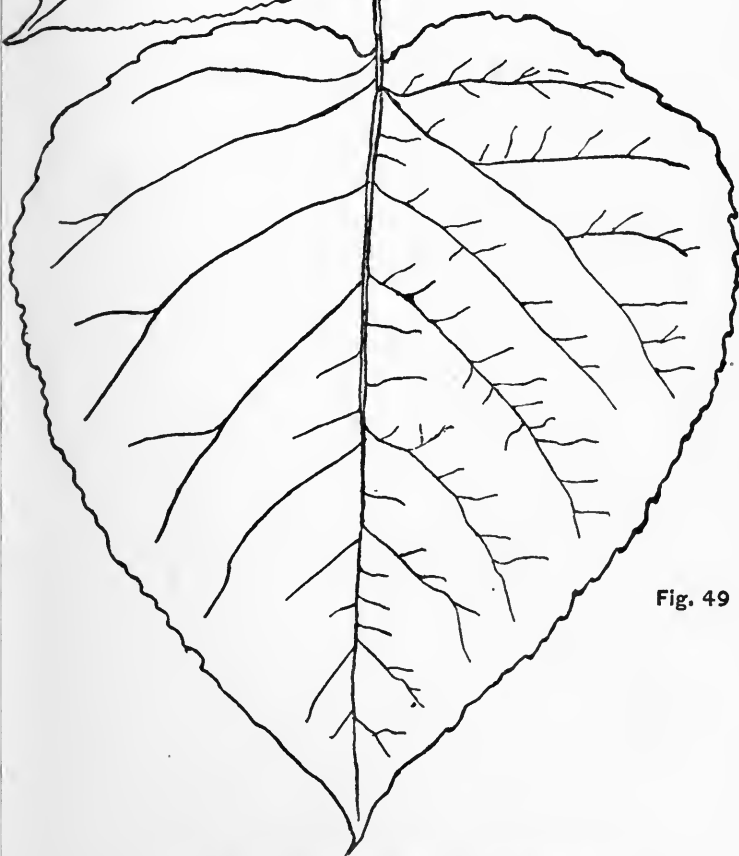
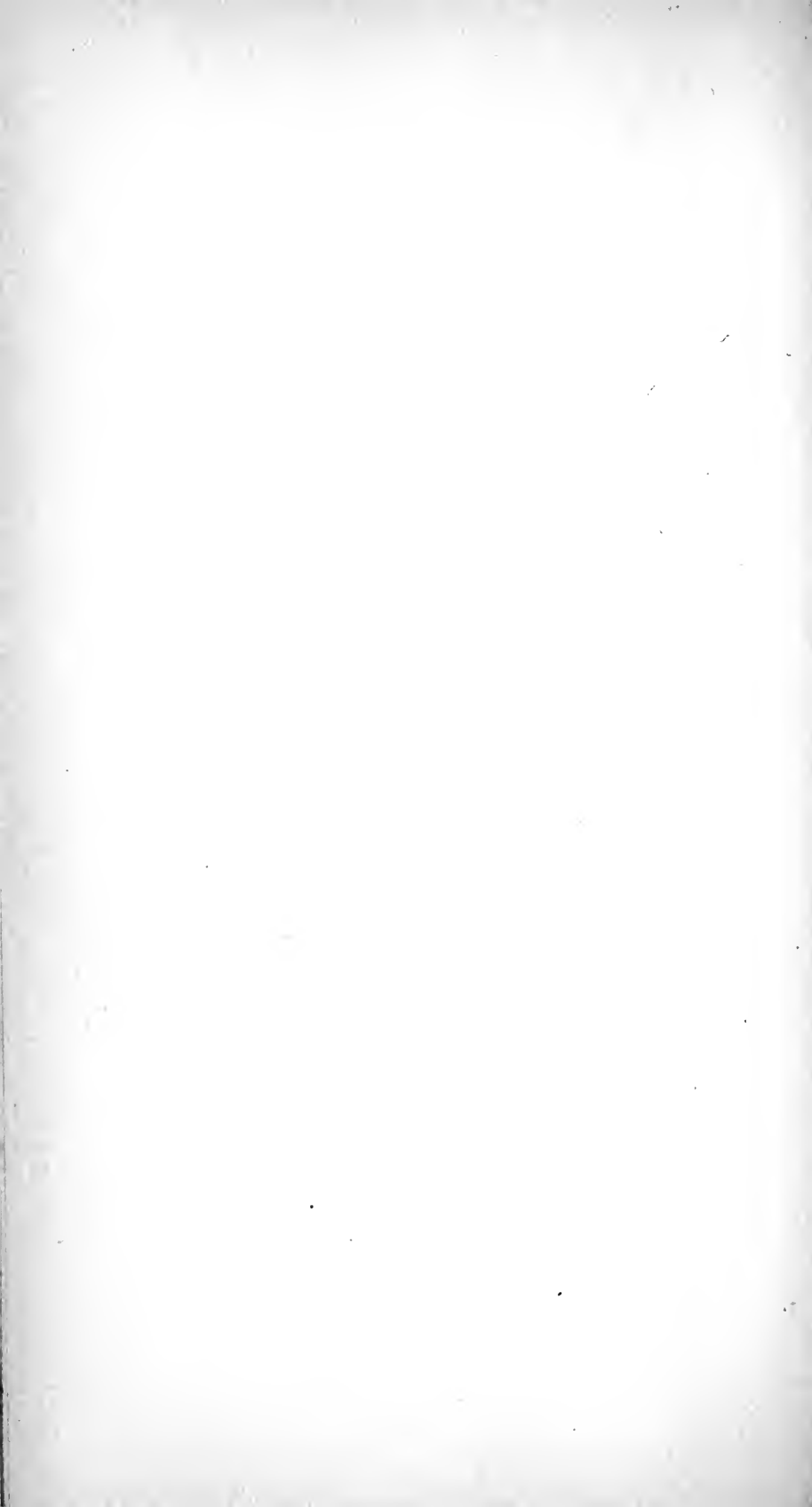


Fig. 49

Fig. 48.—Balsam Poplar. (*P. balsamifera*, L.)

Fig. 49.—Balm of Gilead. *P. b. candicans* (Ait.), Gray.

NATURAL SIZE.



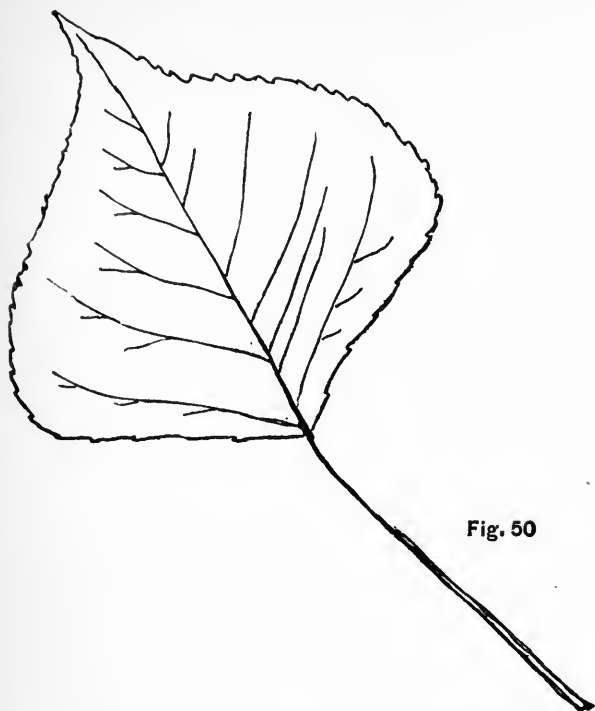


Fig. 50

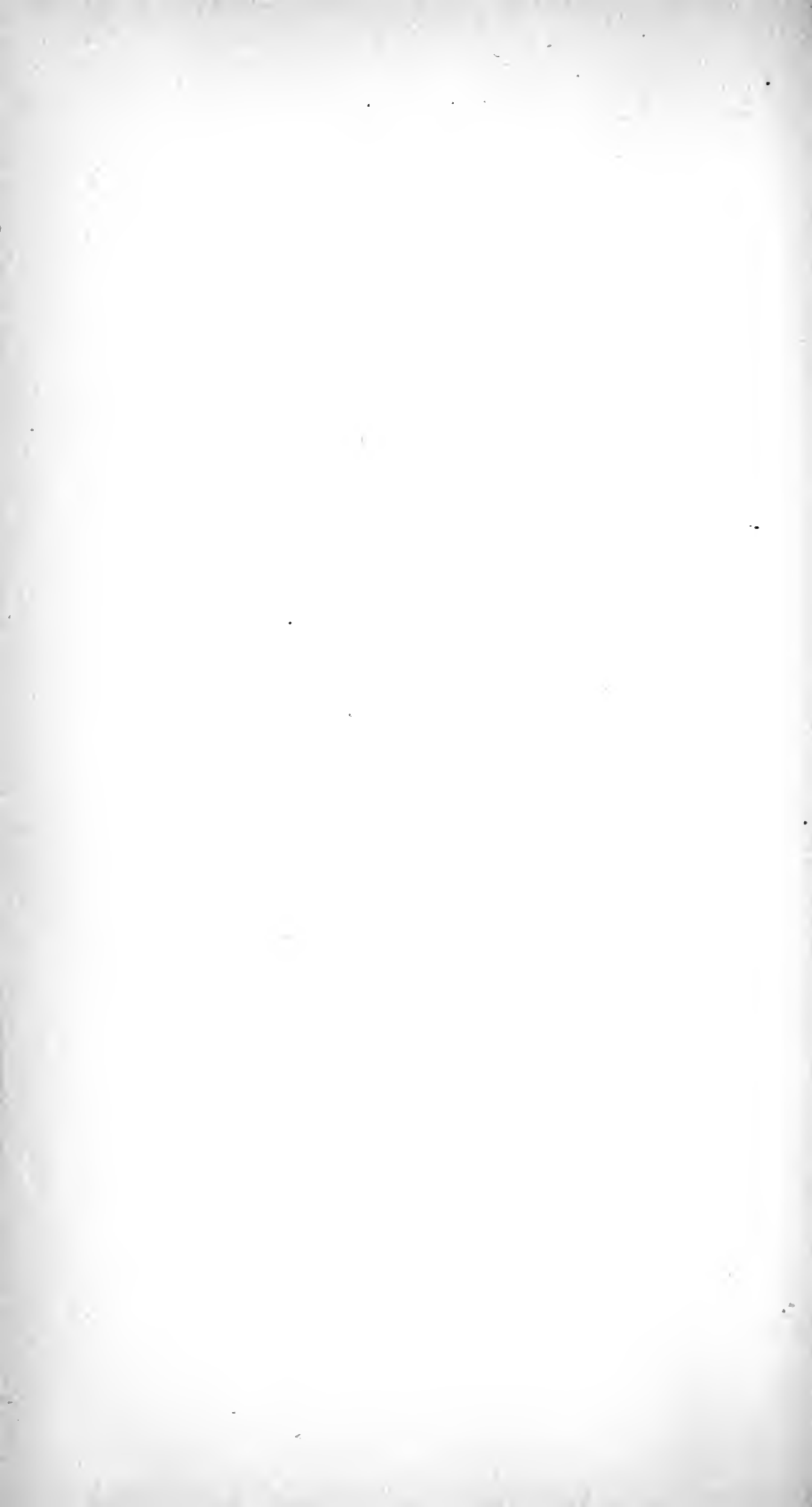


Fig. 51

Fig. 50.—Lombardy Poplar. [*P. dilatata*, Ait.]

Fig. 51.—Silver-Leaf Poplar. [*P. alba*, L.]

NATURAL SIZE.



TREES WITH SIMPLE LEAVES
LEAVES ALTERNATE

CONTINUED

(EDGE LOBED)

A III

(a) and (b)

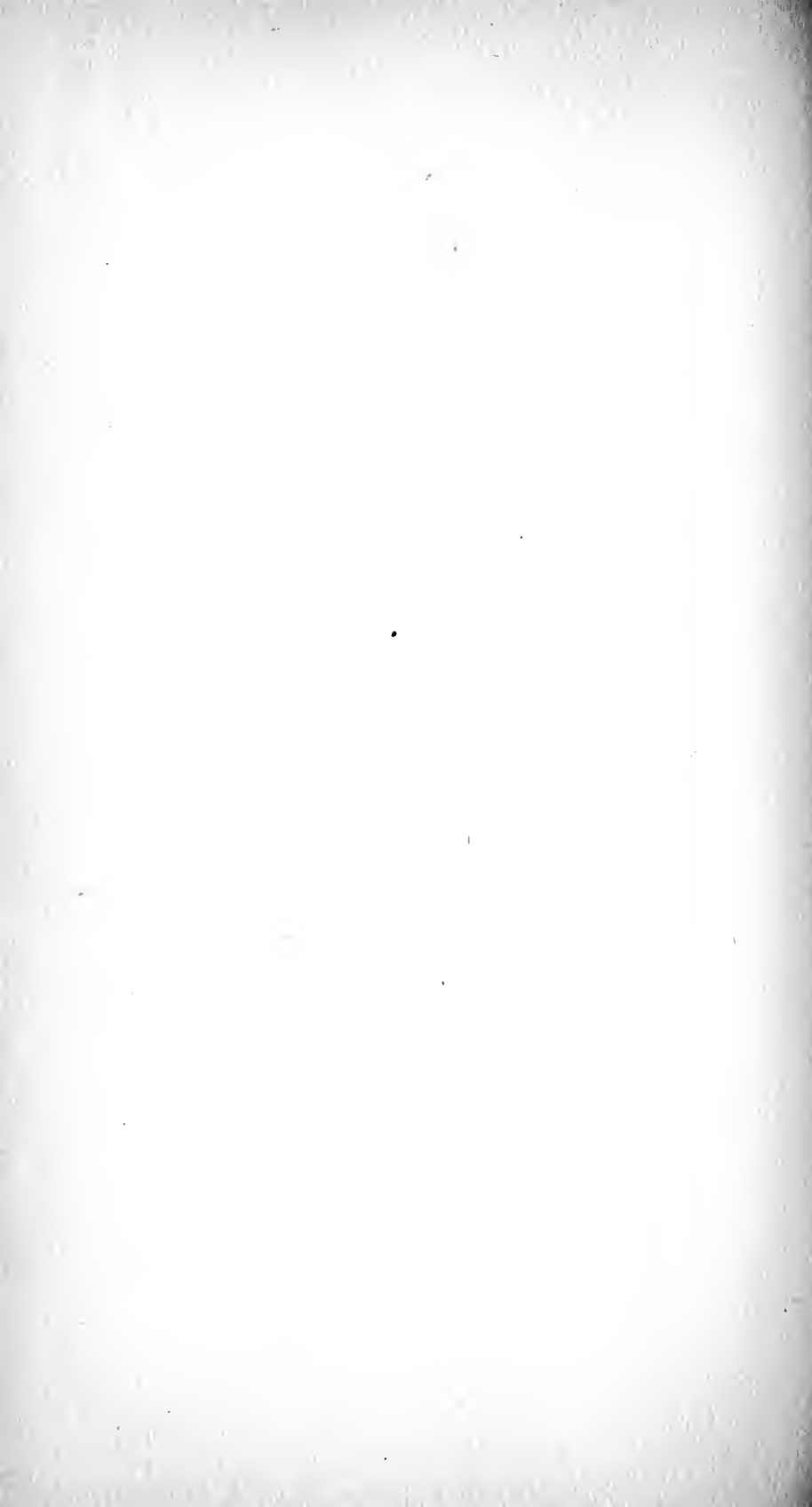




Fig. 52.—Tulip Tree. (L., tulipifera, L.)
NATURAL SIZE.



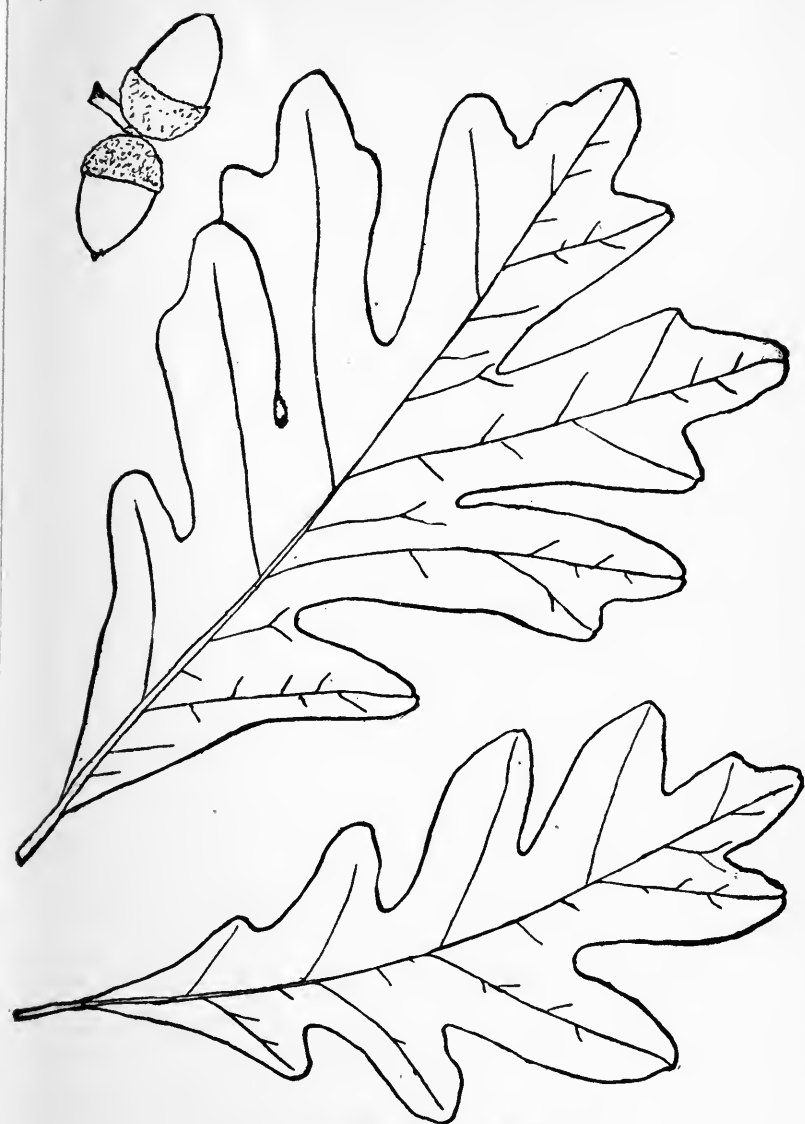


Fig. 53.—White Oak. (*Q. alba*, L.)
LEAVES AND FRUIT REDUCED ONE FOURTH.



Fig. 54.—Post Oak. *Q. minor* (Marsh), Sarg.
LEAVES AND FRUIT REDUCED ONE FOURTH.



Fig. 55.—Burr Oak. (*Q. macrocarpa*, Michx.)
LEAVES AND FRUIT REDUCED ONE FOURTH.

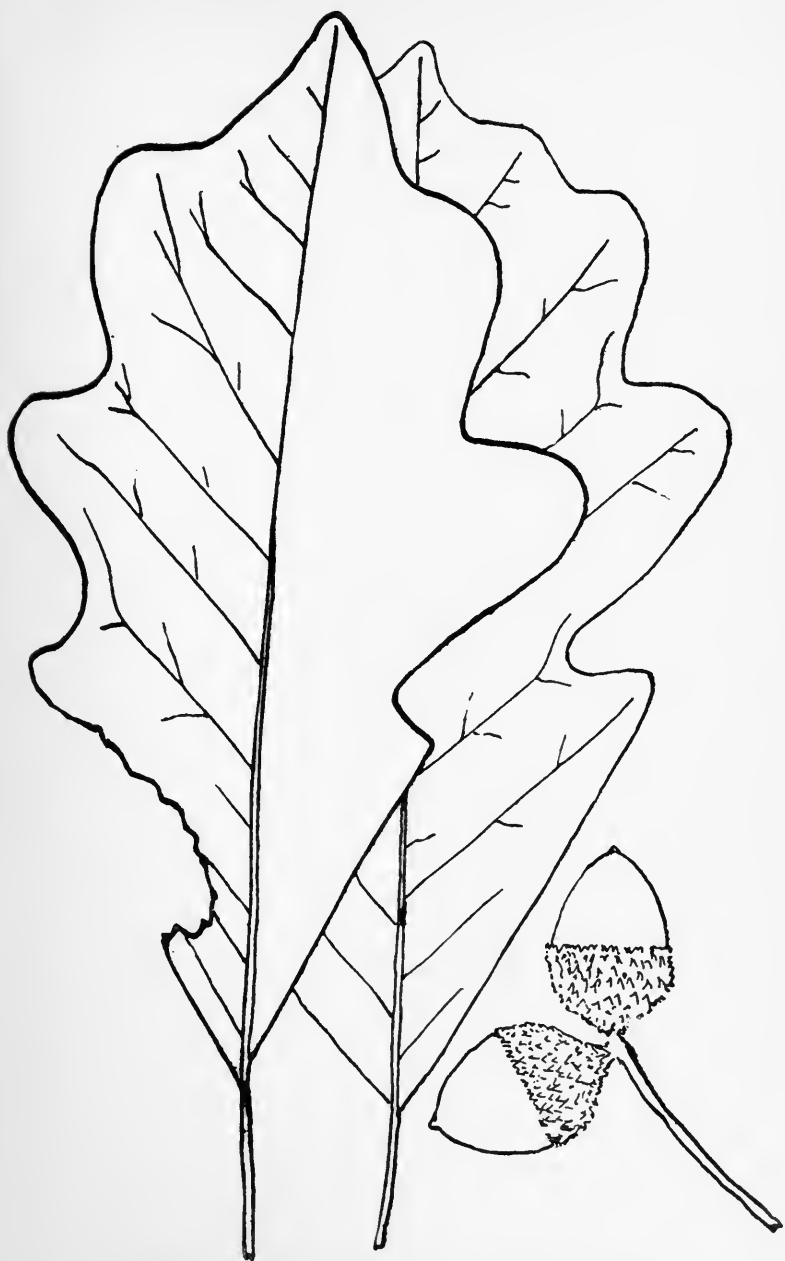


Fig. 56.—Swamp White Oak. (*Q. bicolor*, Willd.)

NATURAL SIZE.

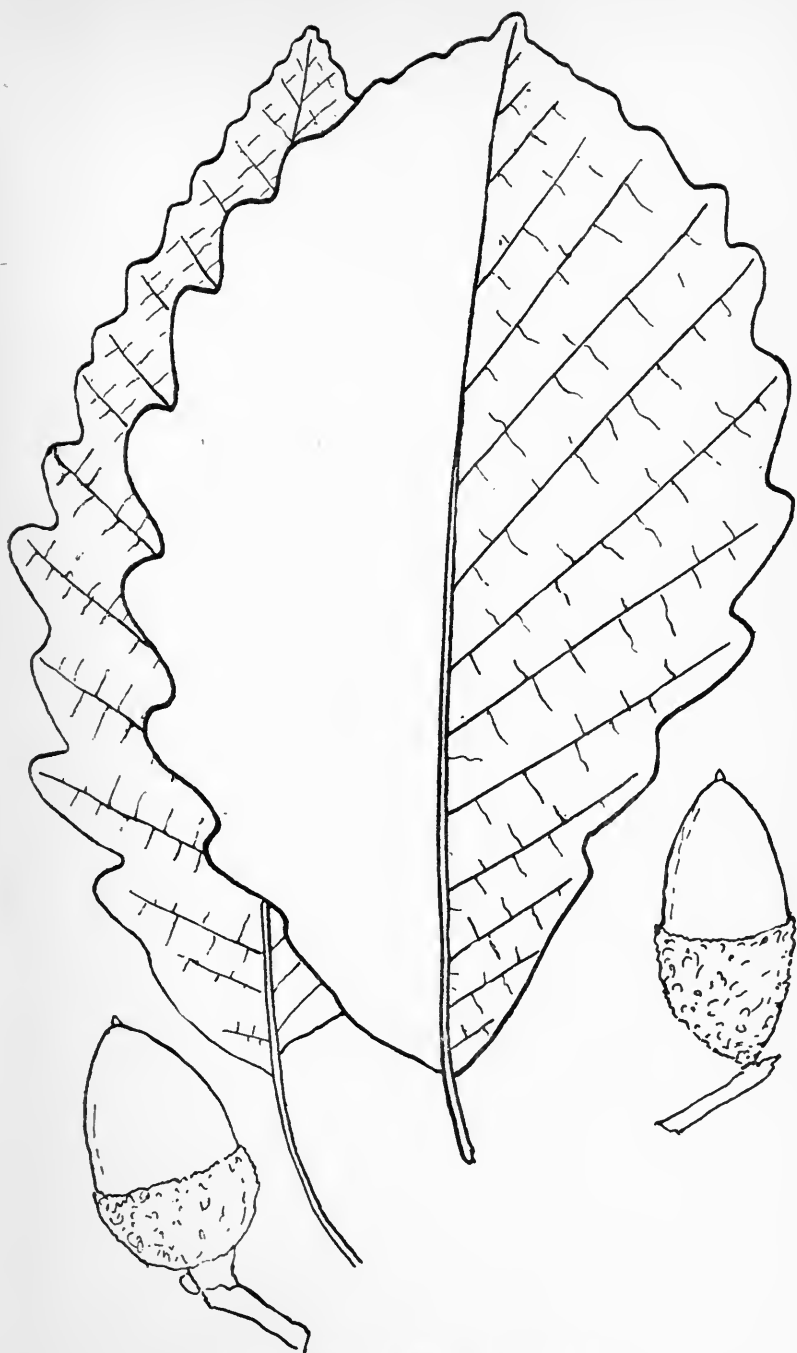


Fig. 57.—Chestnut Oak. (*Q. prinus*, L.)
NATURAL SIZE.



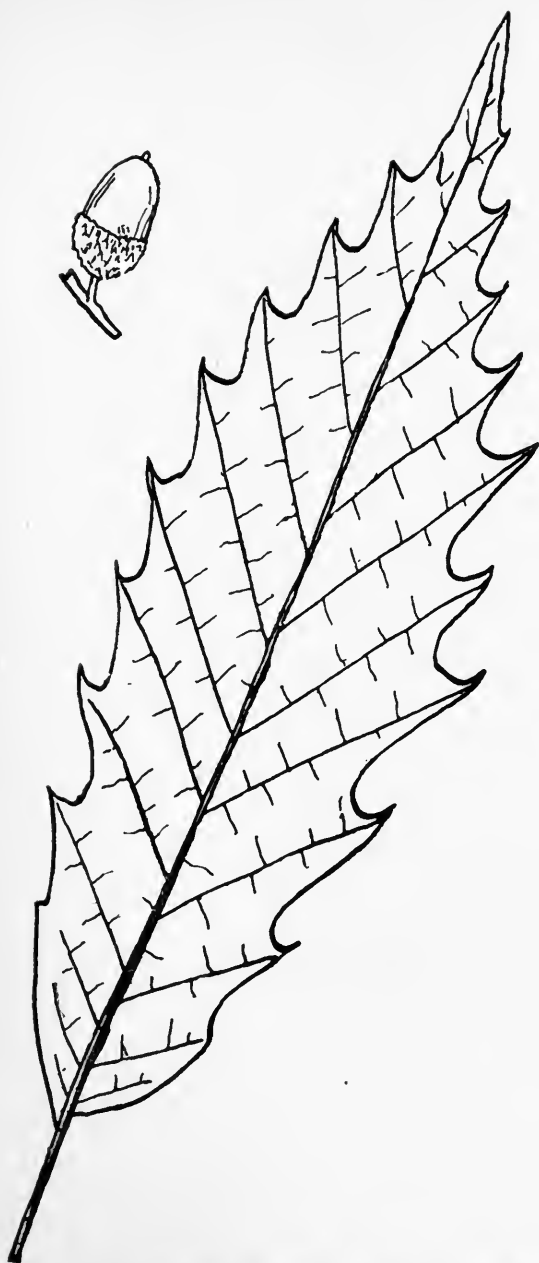


Fig. 58.—Yellow Chestnut Oak. *Q. (Muhl.), Engel.*
NATURAL SIZE.

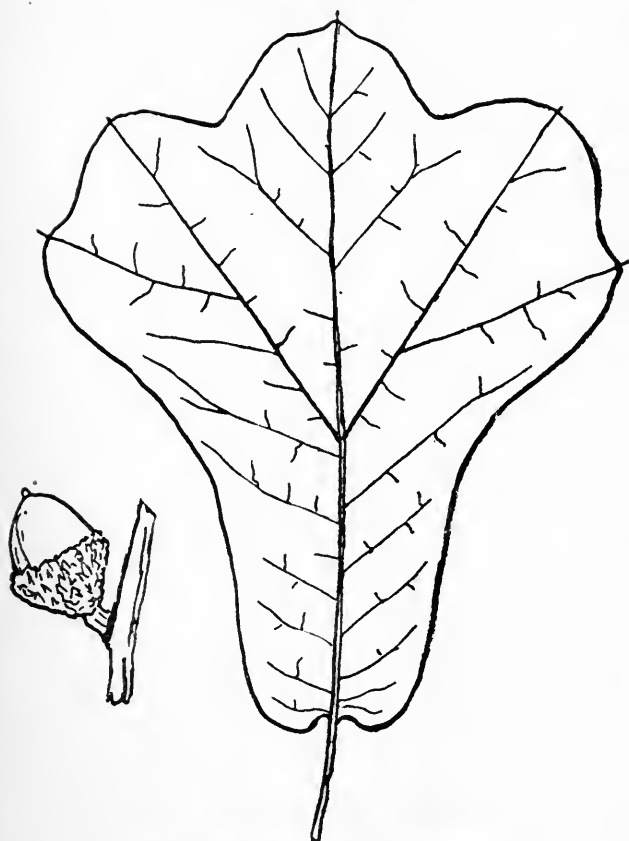


Fig. 59.—Black Jack. (*Q. nigra*, L.)
NATURAL SIZE.

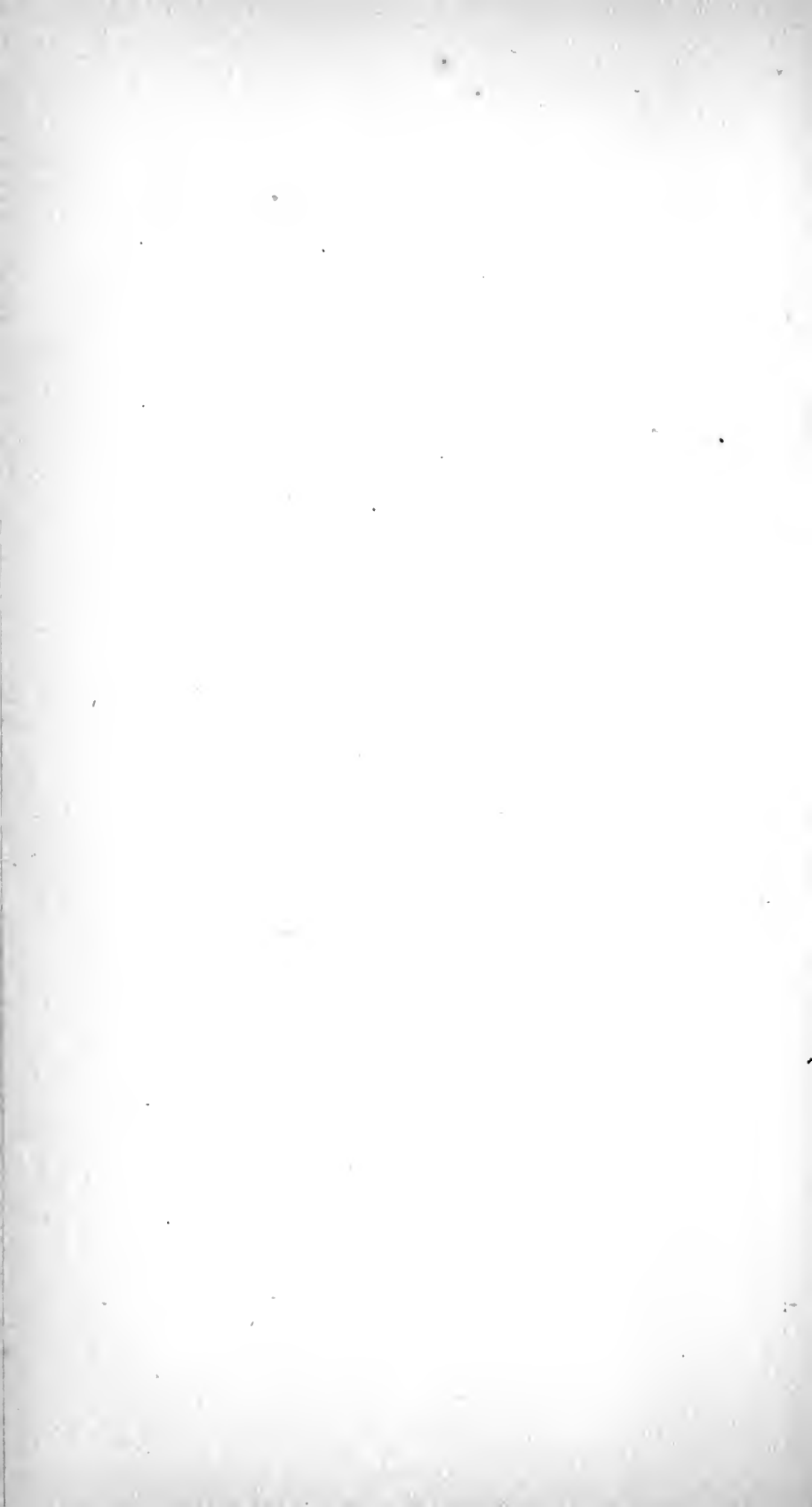
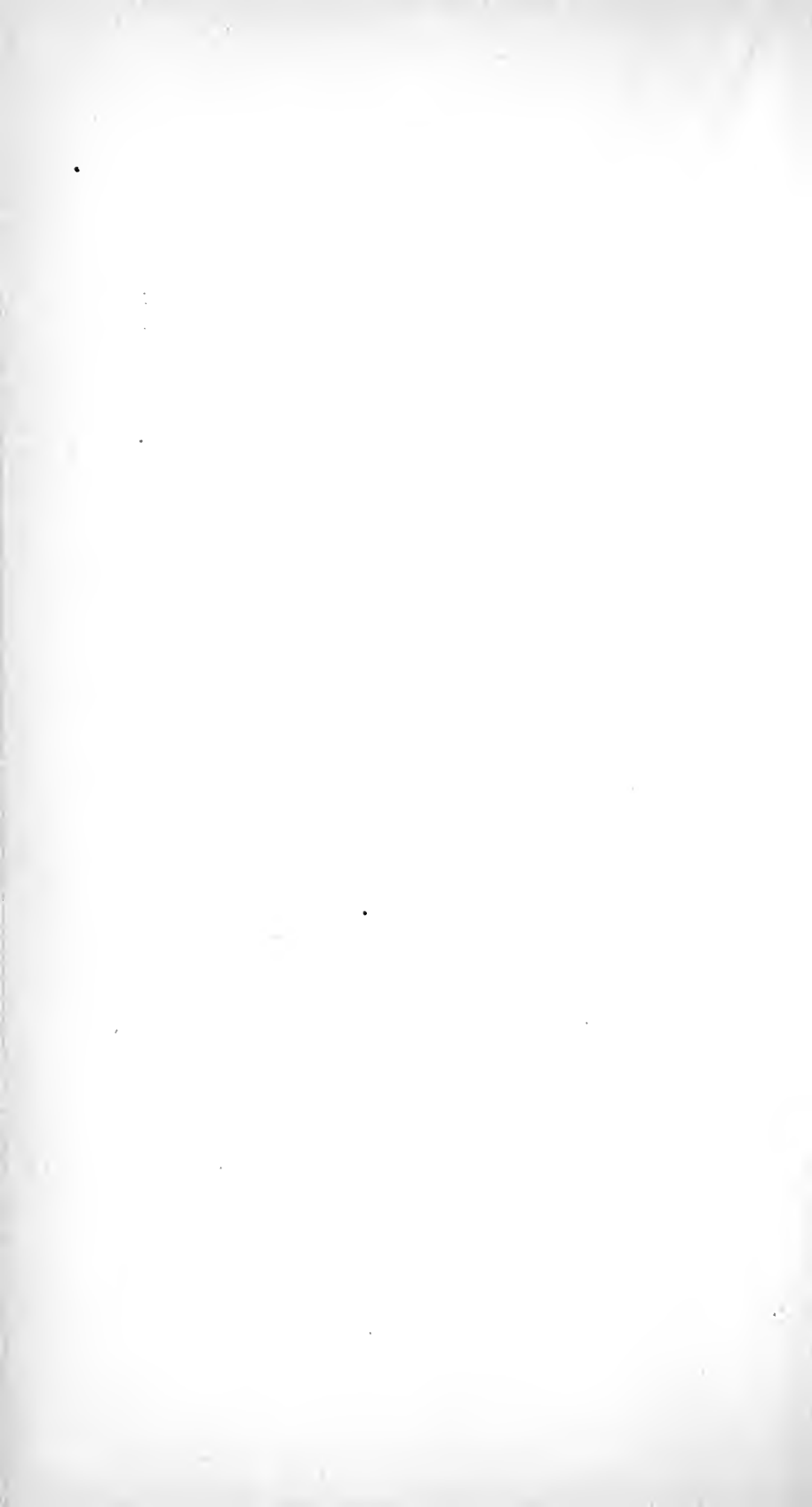




Fig. 60.—Spanish Oak. (*Q. cuneata*, Wang.)
NATURAL SIZE.



Fig. 61.—Scarlet Oak. (*Q. coccinea*, Wang.)
NATURAL SIZE.



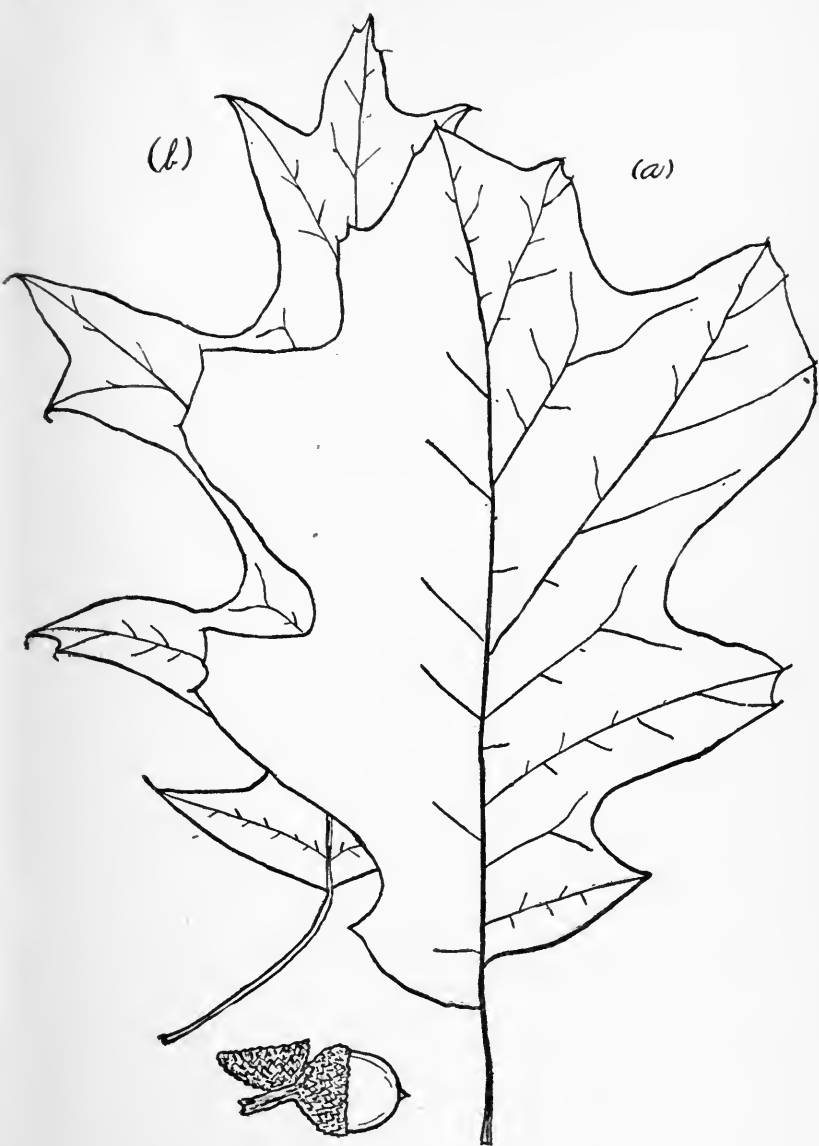


Fig. 62, *a* and *b*.—Black Oak. (*Q. c., tinctoria*, Gray.)
FRUIT AND LEAVES REDUCED ONE FOURTH.



Fig. 63.—Red Oak. (*Q. rubra*, L.)
NATURAL SIZE.





Fig. 64.—Pin Oak. (*Q. palustris*, D. Roi.)
NATURAL SIZE.



Fig. 65.—Willow Oak. (*Q. Phellos*, L.)
NATURAL SIZE.

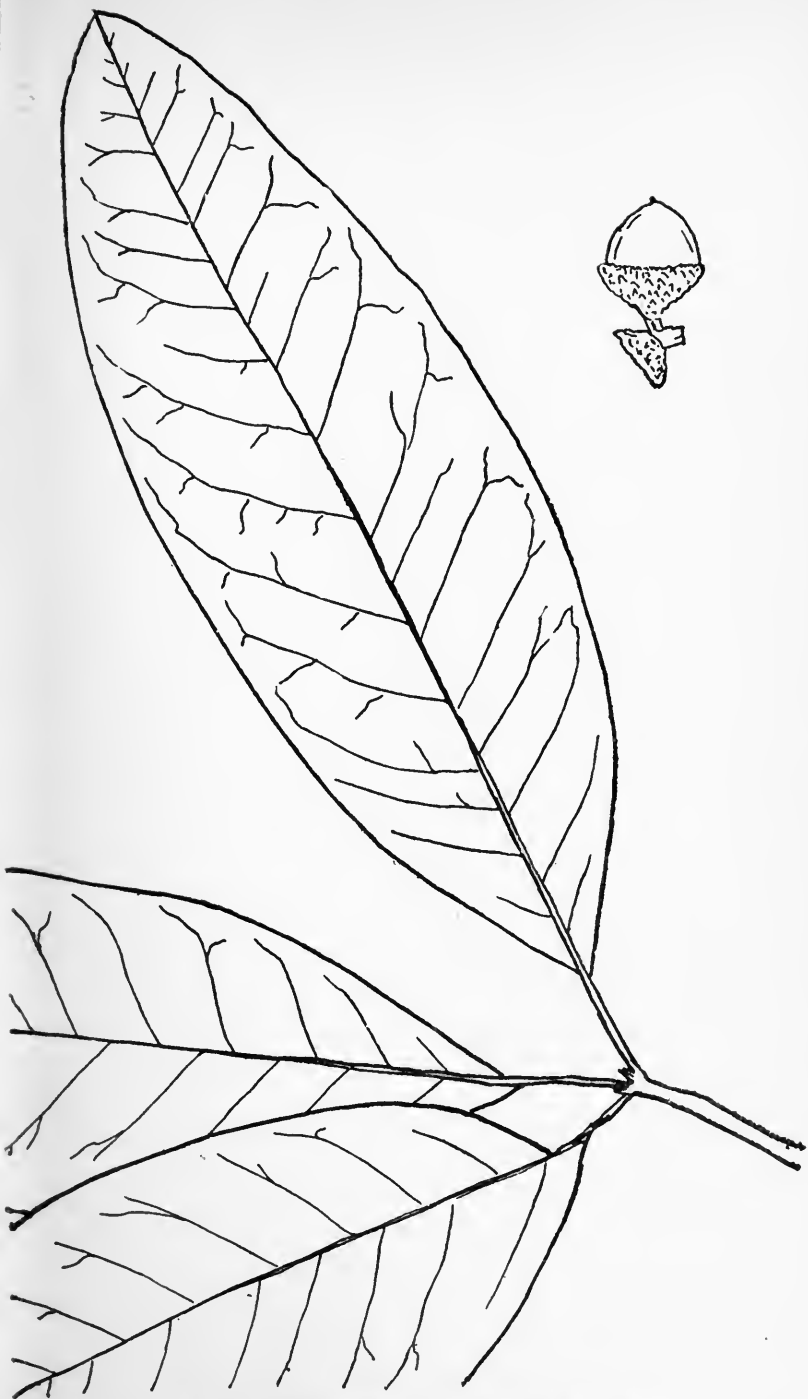


Fig. 66.—Shingle Oak. (*Q. imbricaria*, Michx.)
NATURAL SIZE.

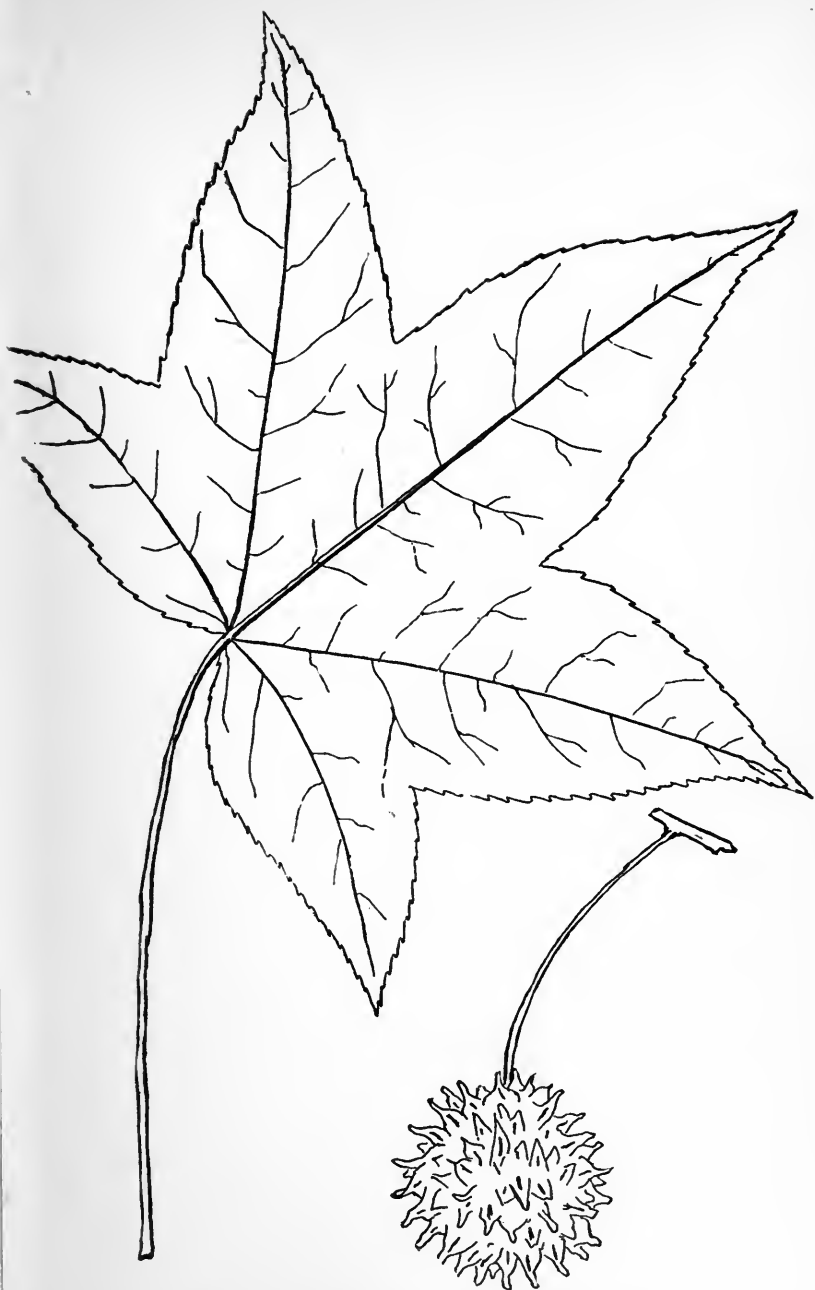


Fig. 67.—Sweet Gum. (*L. styraciflua*, L.)

NATURAL SIZE.

TREES WITH SIMPLE LEAVES

CONTINUED

LEAVES OPPOSITE

(EDGE ENTIRE)

B I



Fig. 68.—Flowering Dogwood. (*C. florida*, L.)
NATURAL SIZE.

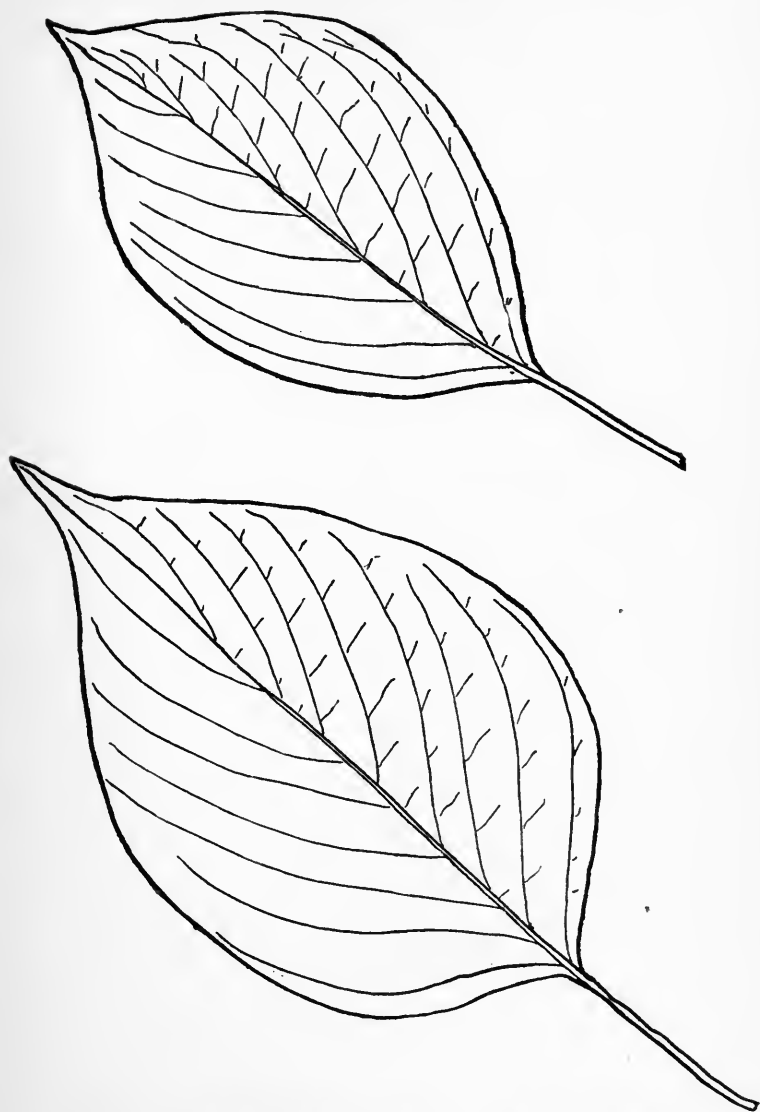


Fig. 69.—Alternate-leaved Dogwood. (*C. alternifolia*, L. f.)
NATURAL SIZE.

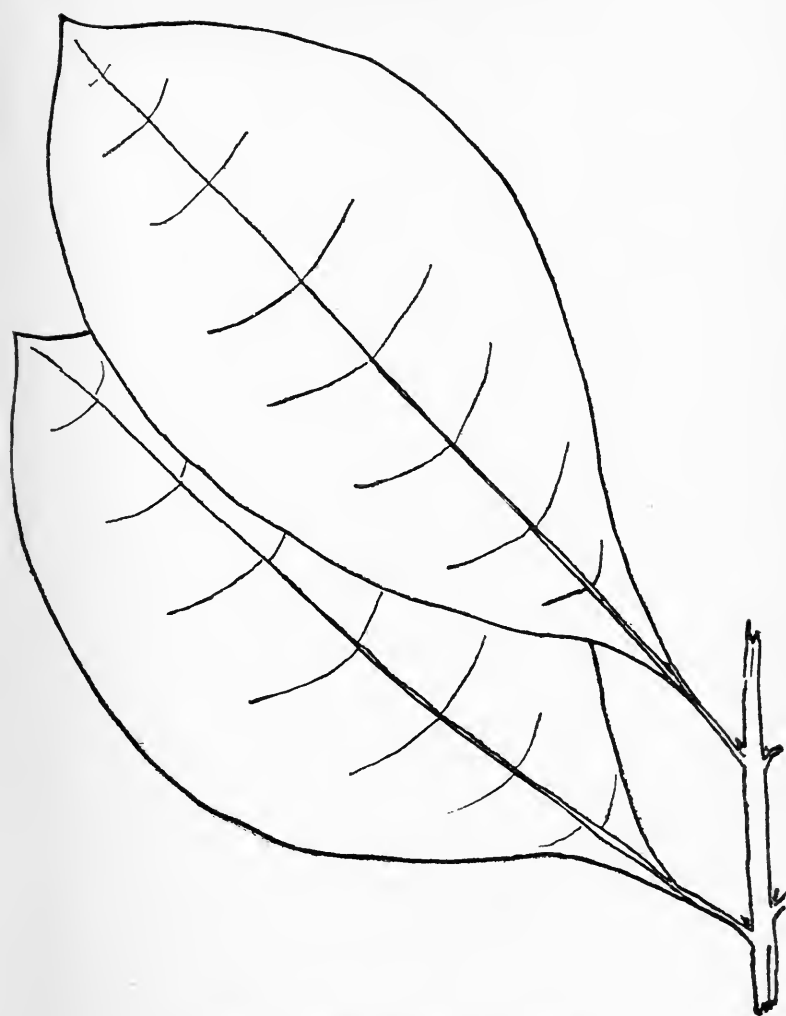


Fig. 70.—Fringe Tree. (C. Virginica, L.)
NATURAL SIZE.



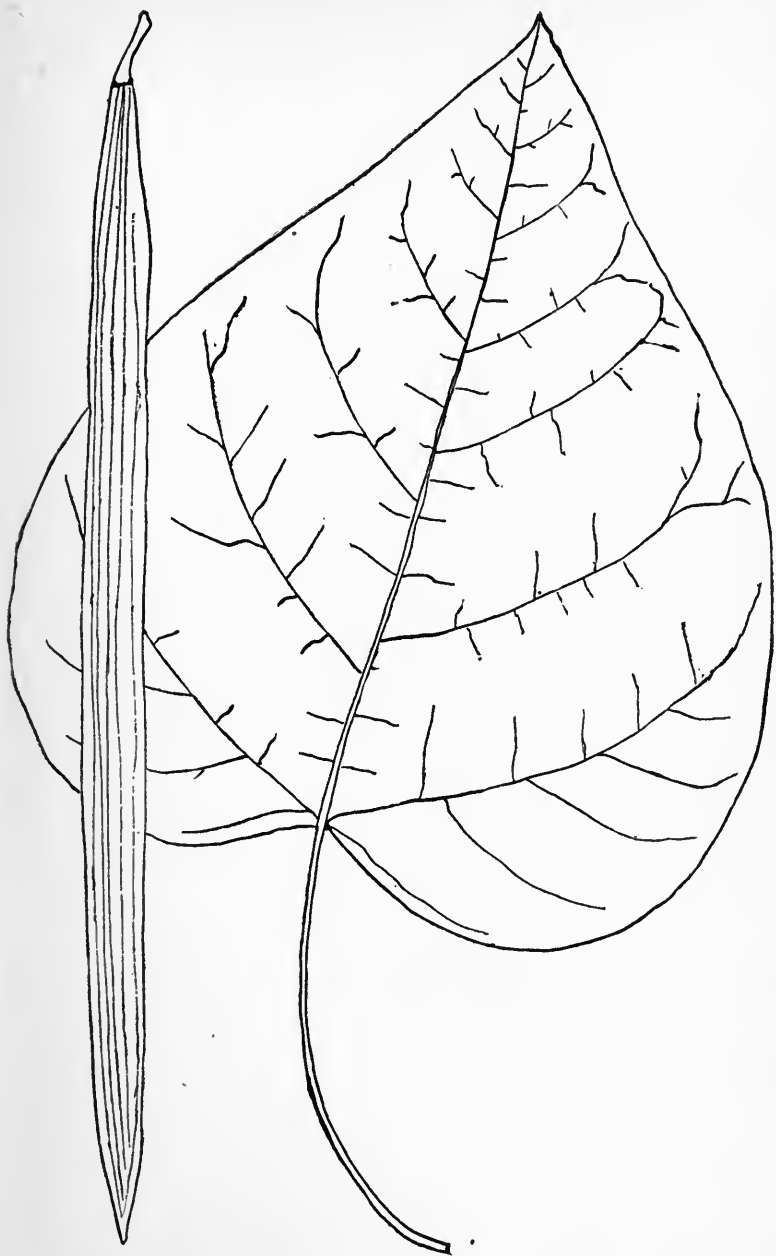
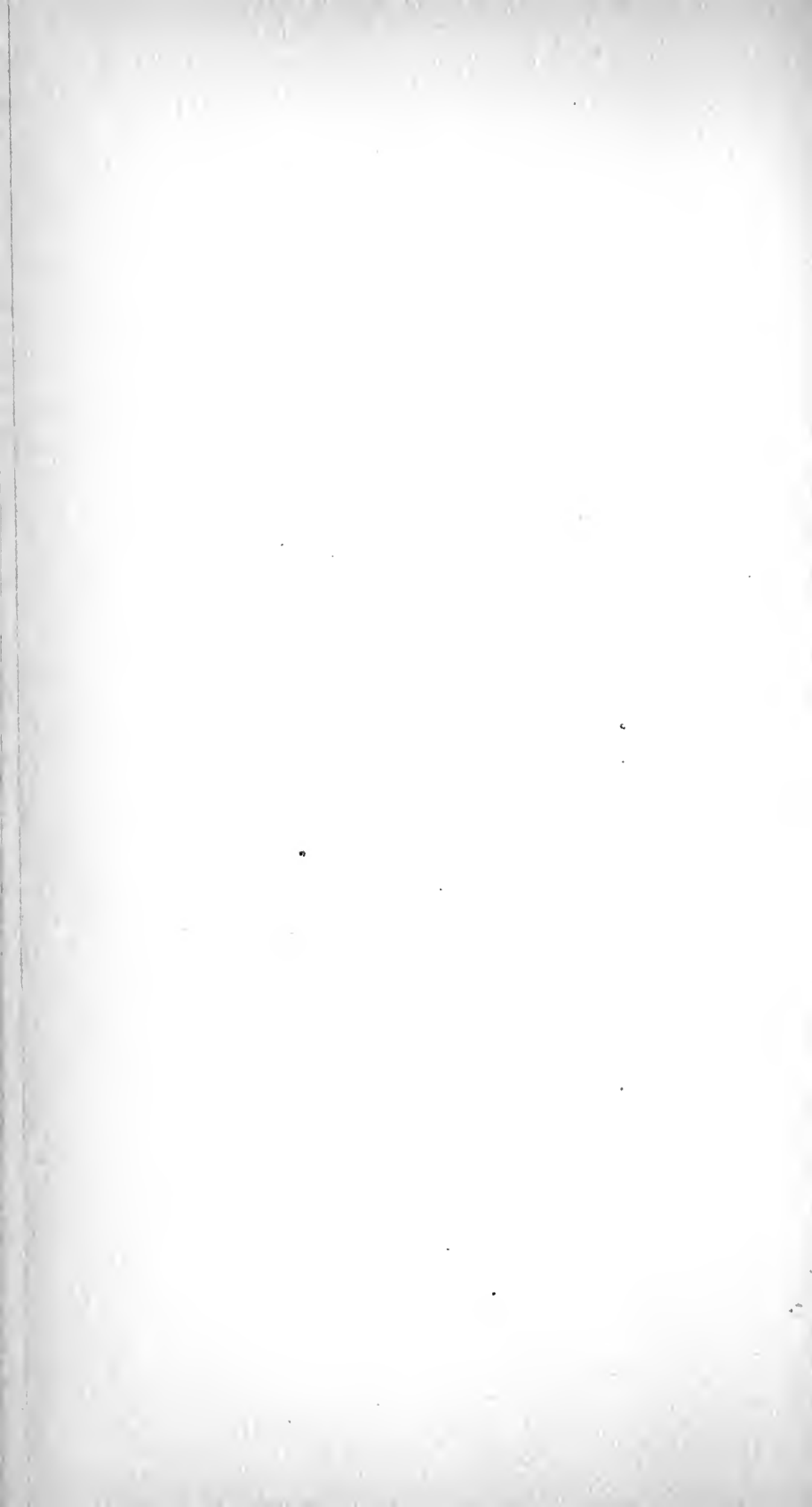


Fig. 71.—*Catalpa*. (*C. bignonioides*, Walt.)
LEAF AND FRUIT REDUCED ONE THIRD.



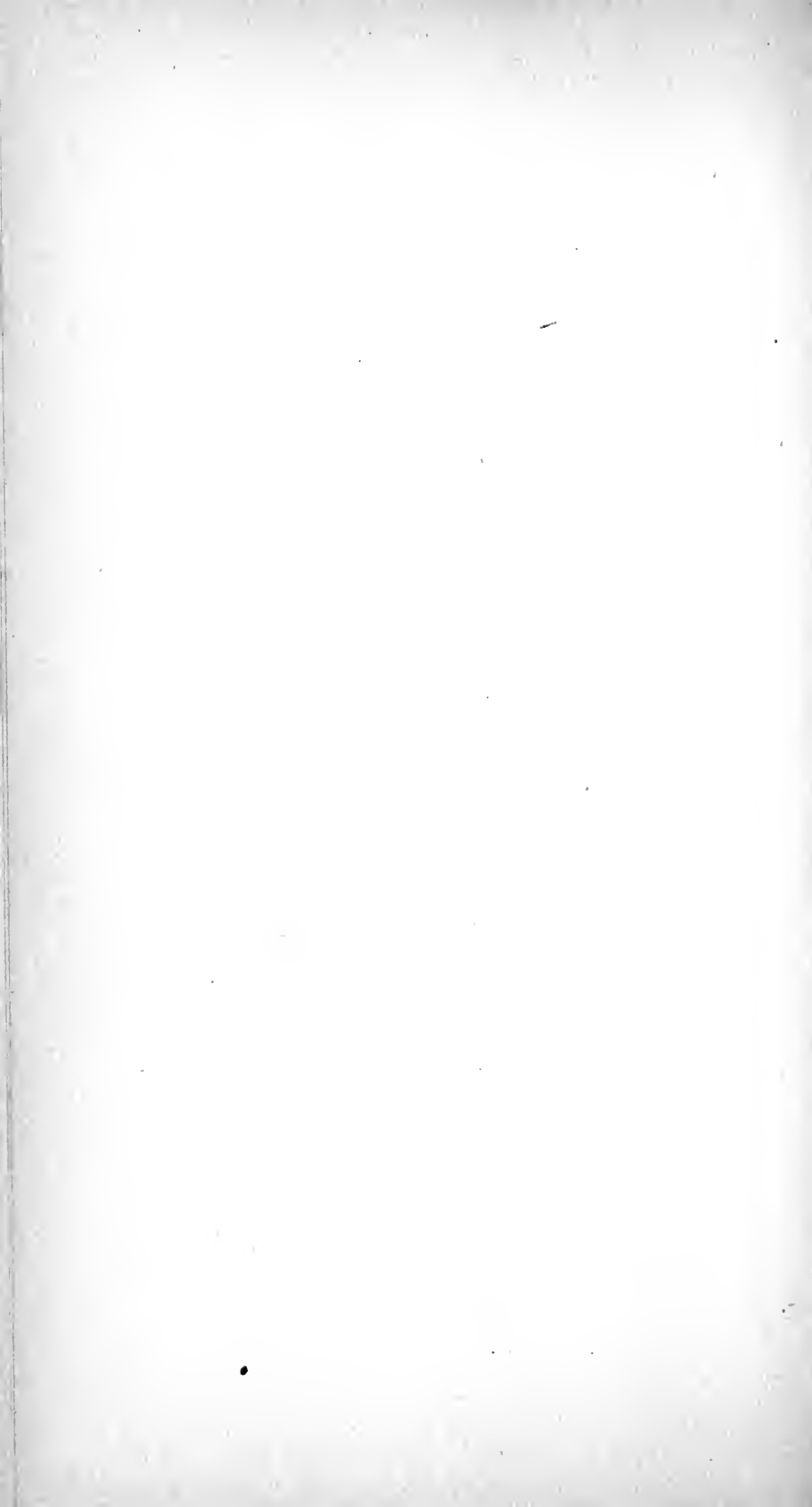
TREES WITH SIMPLE LEAVES

LEAVES OPPOSITE

CONTINUED

(EDGE TOOTHED)

B II



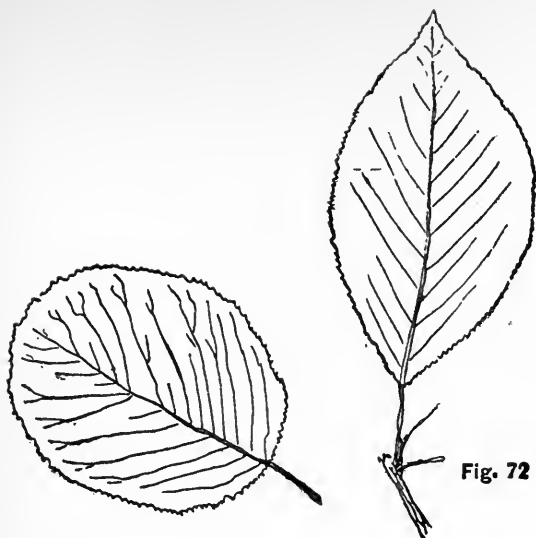


Fig. 72

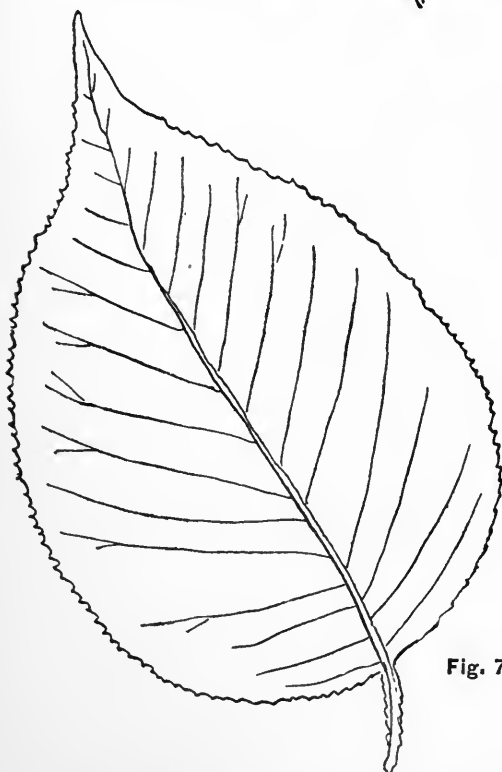
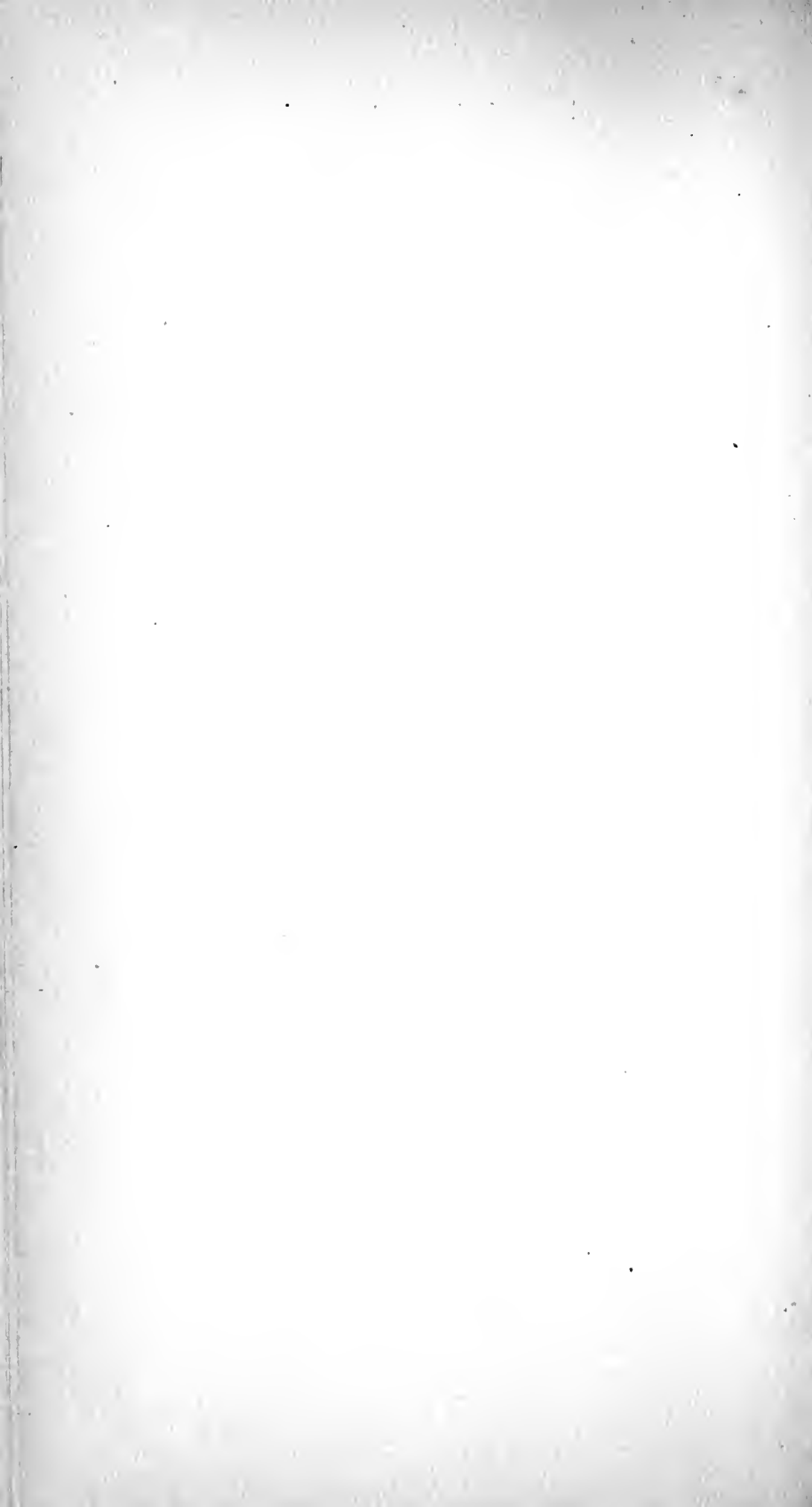


Fig. 73

Fig. 72.—Black Haw. (*V. prunifolium*, L.)

Fig. 73.—Sweet Viburnum. (*V. lentago*, L.)

NATURAL SIZE.



TREES WITH SIMPLE LEAVES

LEAVES OPPOSITE

CONTINUED

(EDGE LOBED)

B III

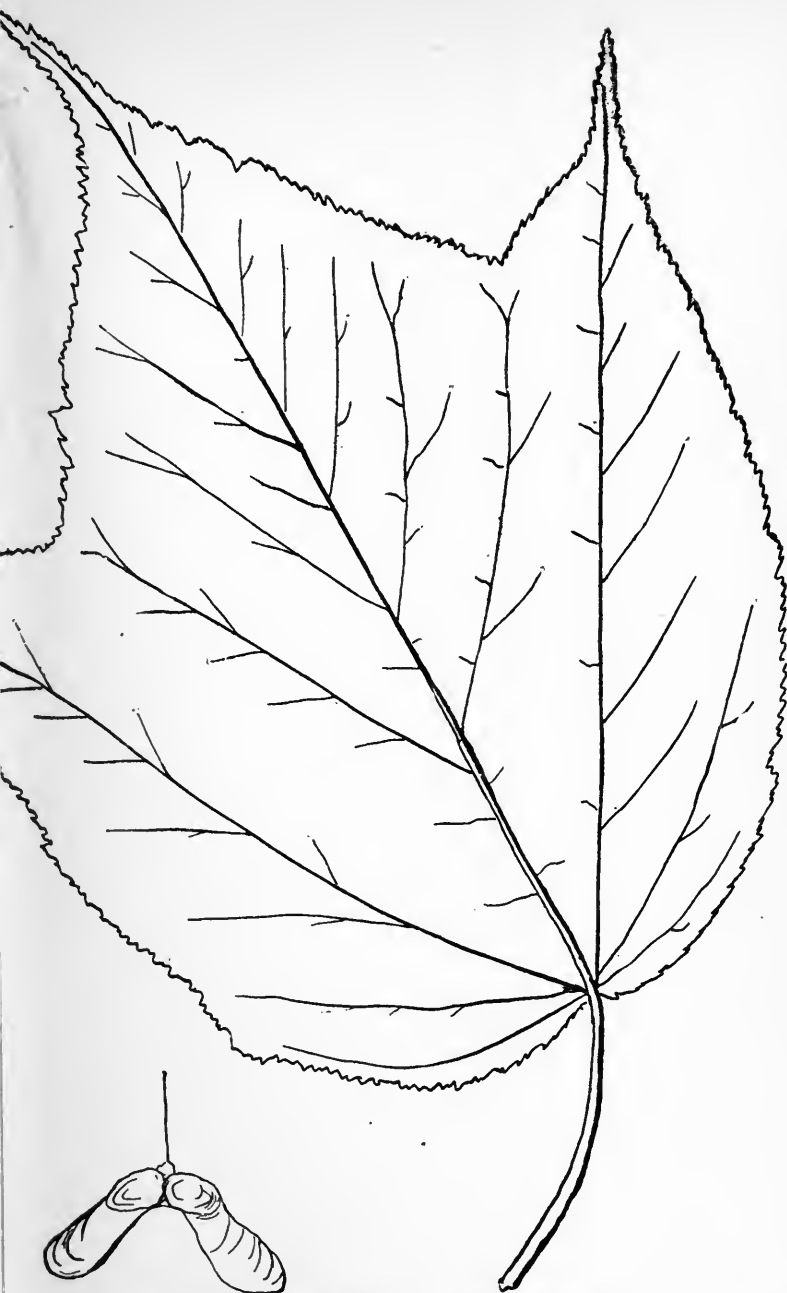


Fig. 74.—Striped Maple. (*A. Pennsylvanicum*, L.)

NATURAL SIZE.



Fig. 75.—Sugar Maple. (*A. saccharum*, Marsh.)
NATURAL SIZE.



Fig. 76.—Black Maple. (*A. s.*, var. *nigrum*.)
NATURAL SIZE.



Fig. 77.—Silver-Leaf Maple. (*A. saccharinum*, L.)
NATURAL SIZE.

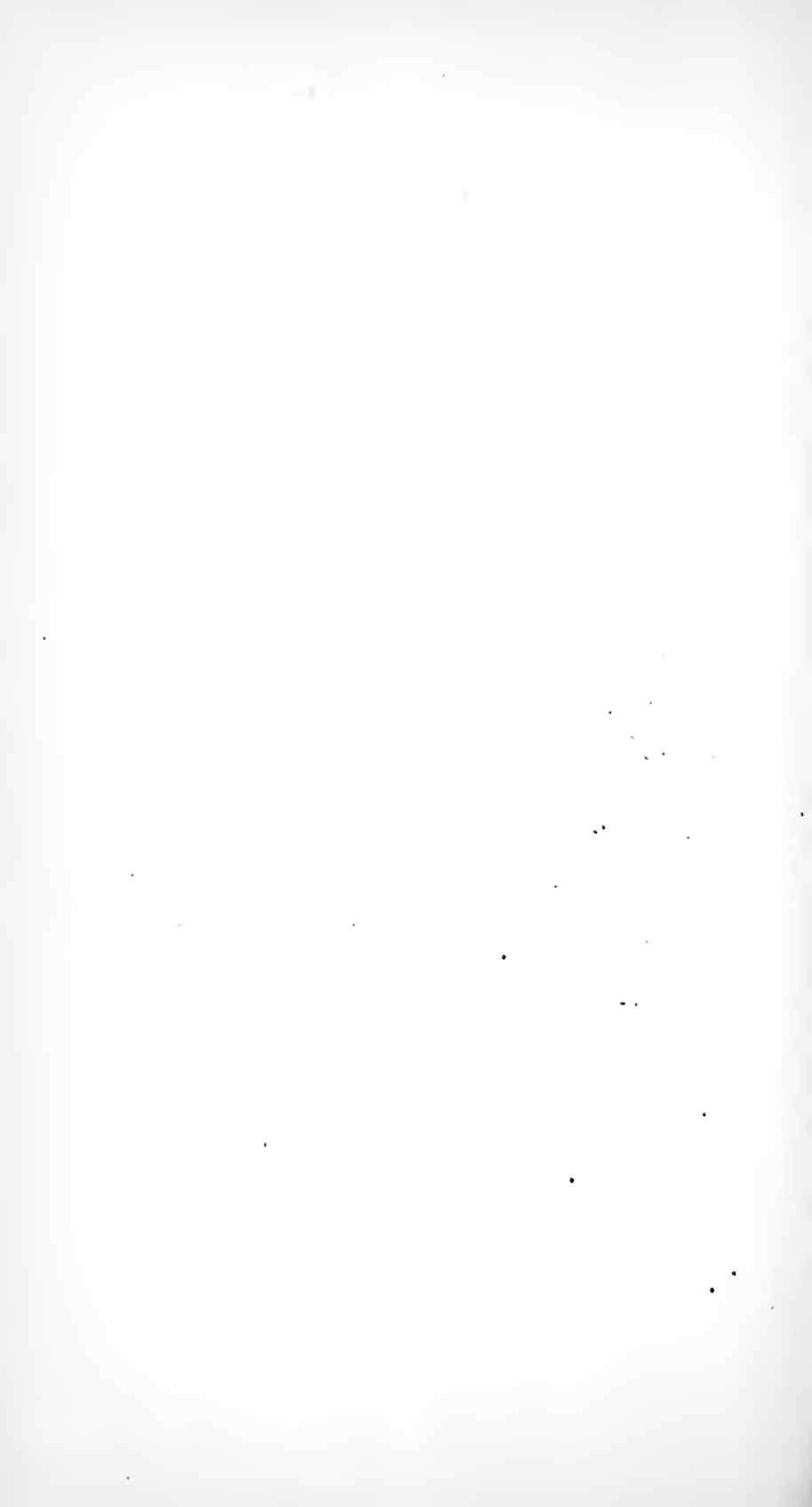
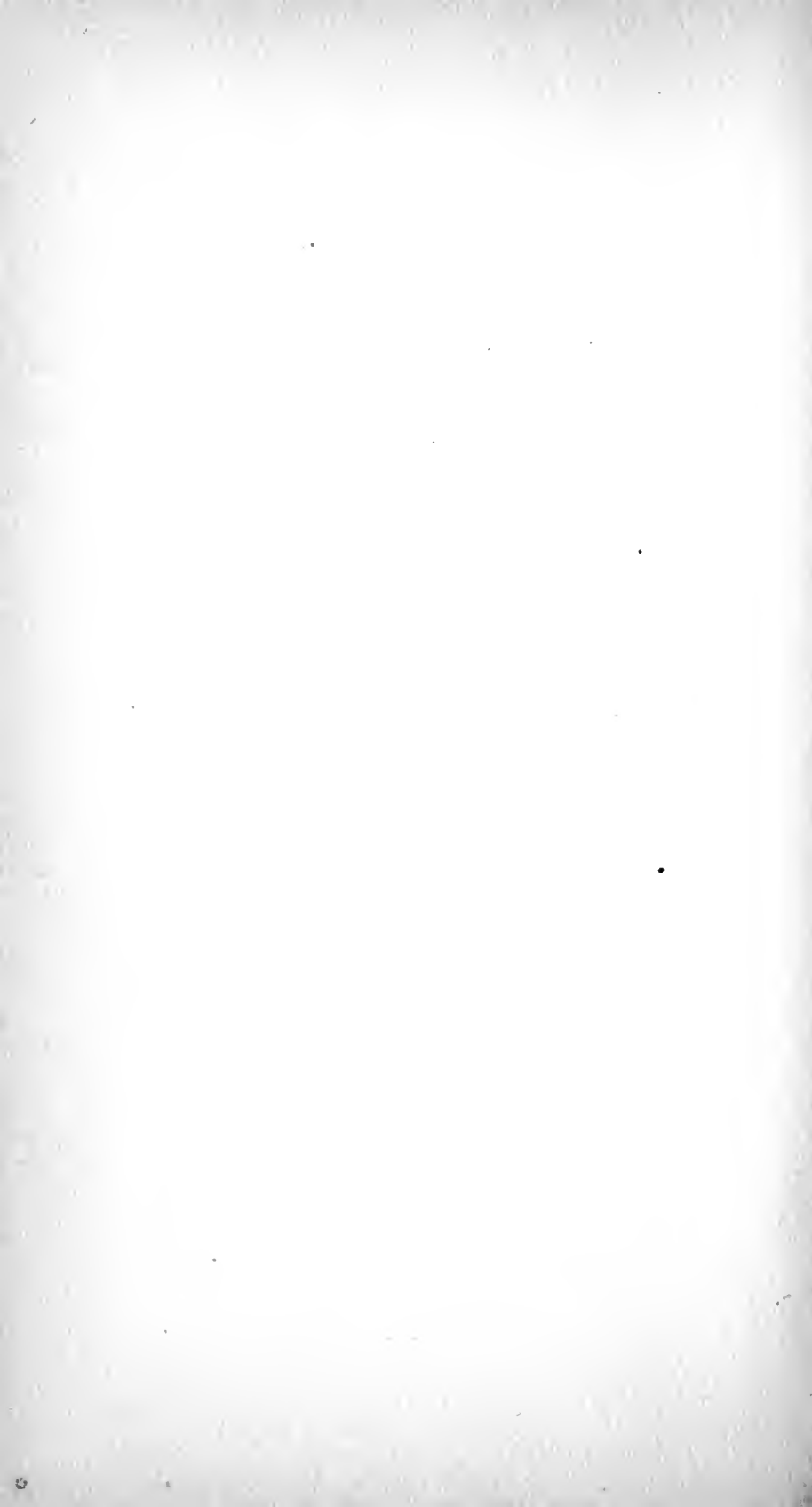




Fig. 78.—Red Maple. (*A. rubrum*, L.)

NATURAL SIZE.



TREES WITH SIMPLE LEAVES

CONTINUED

LEAVES INDETERMINATE

C I





Fig. 79

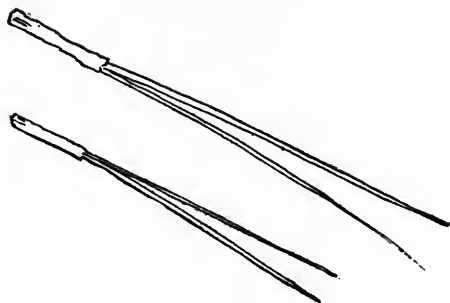


Fig. 80

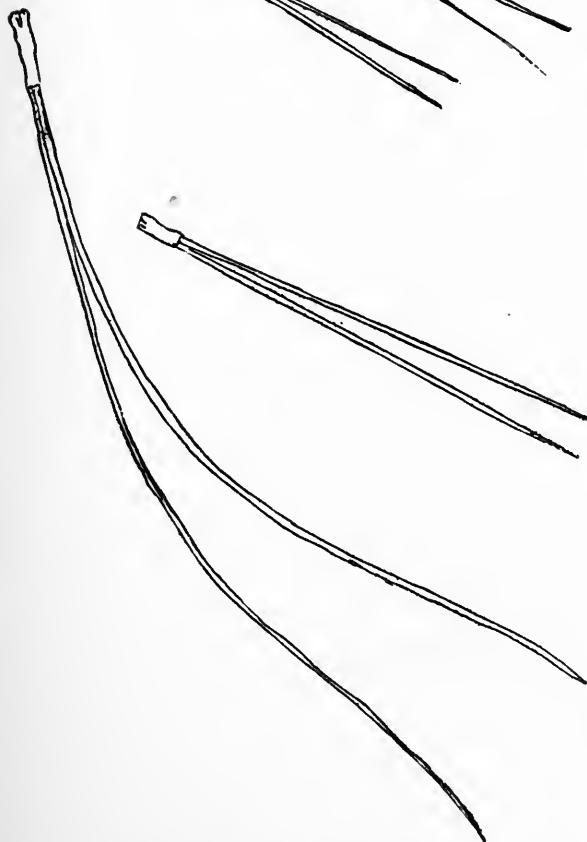


Fig. 81

Fig. 82

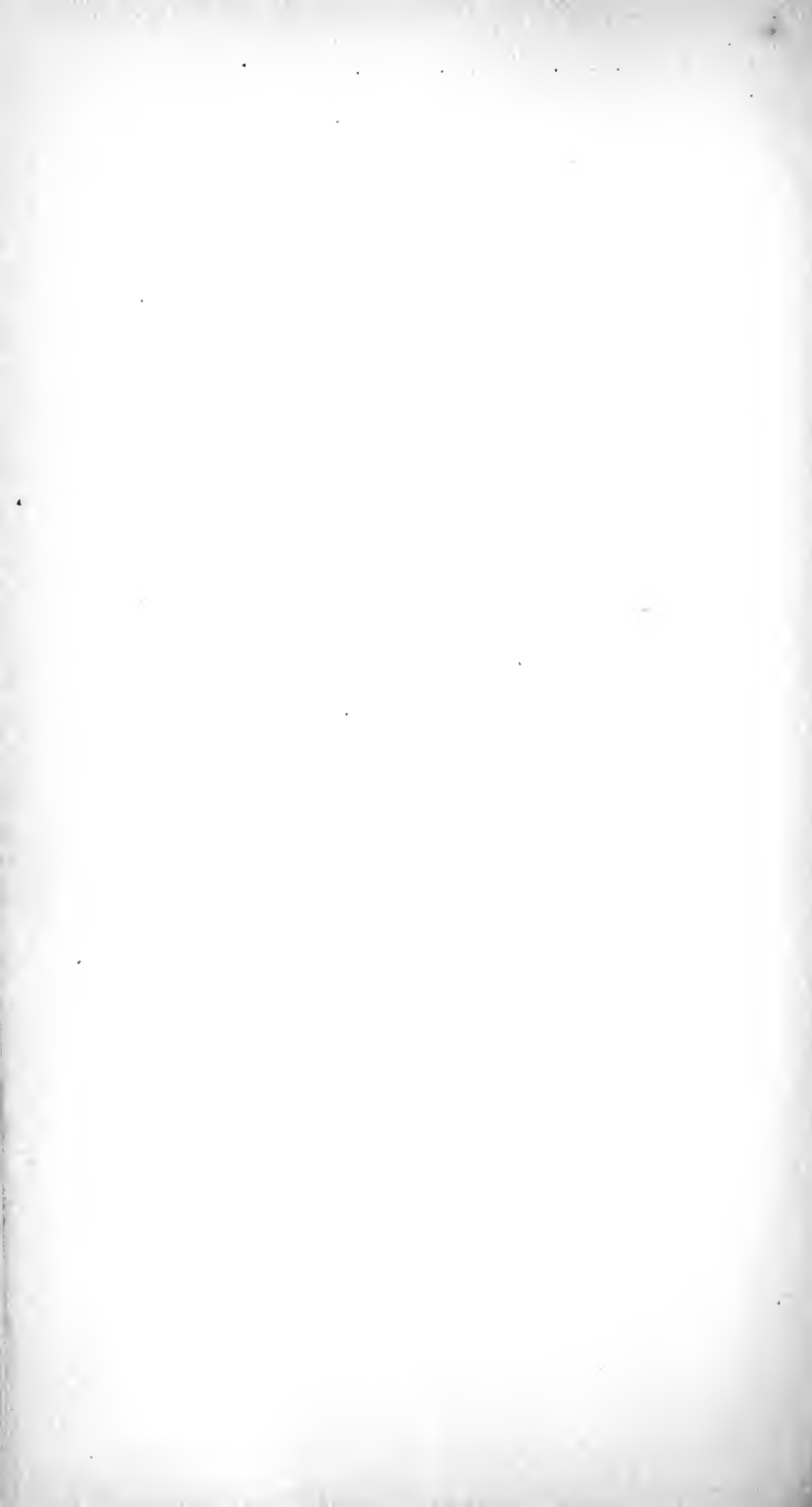
Fig. 79.—Gray Pine. (*P. Banksiana*, Lam.)

Fig. 80.—Scrub Pine. (*P. Virginiana*, Mill.)

Fig. 81.—Table Mountain Pine. (*P. pungens*, Michx.)

Fig. 82.—Red Pine. (*P. resinosa*, Ait.)

NATURAL SIZE.



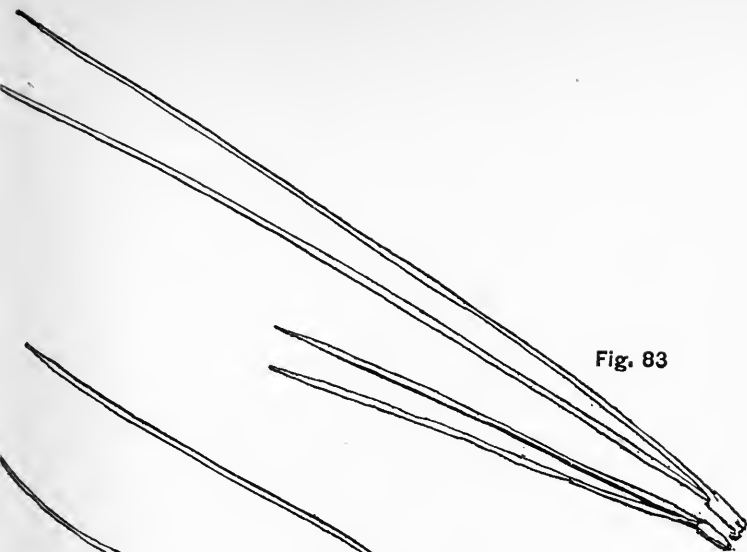


Fig. 83

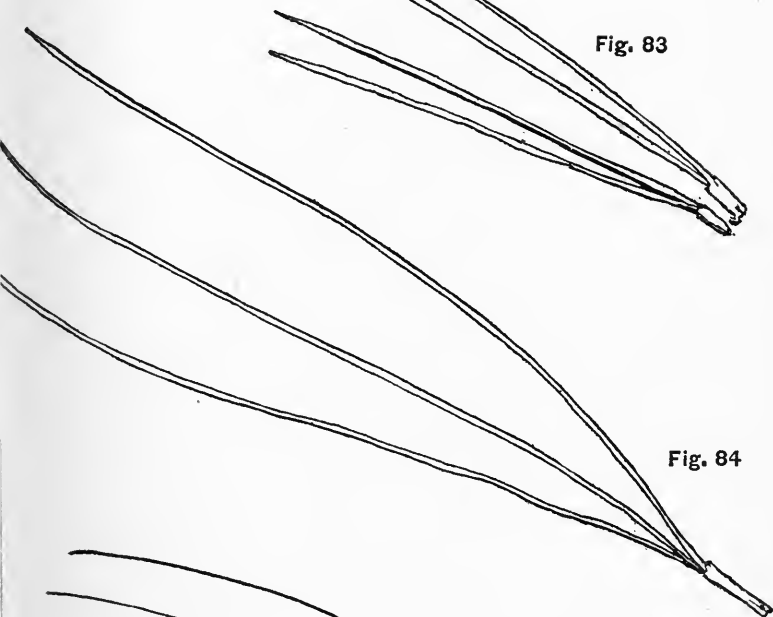


Fig. 84

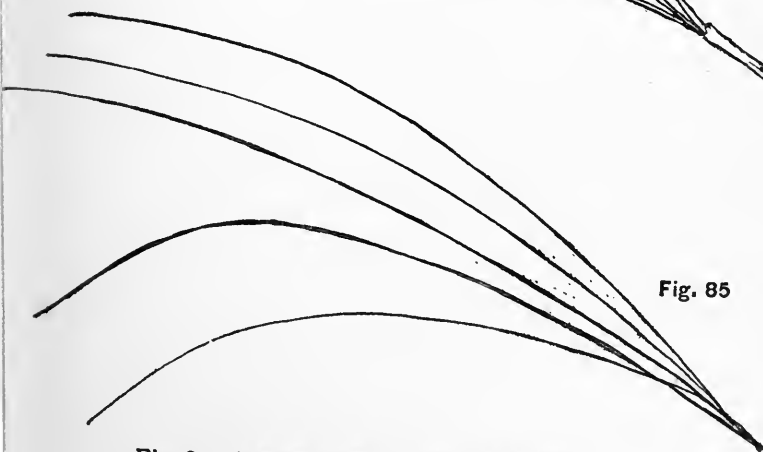


Fig. 85

Fig. 83.—Yellow Pine. (*P. ecpinata*, Mill.)

Fig. 84.—Pitch Pine. (*P. rigida*, Mill.)

Fig. 85.—White Pine. (*P. Strobus*, L.)

NATURAL SIZE.



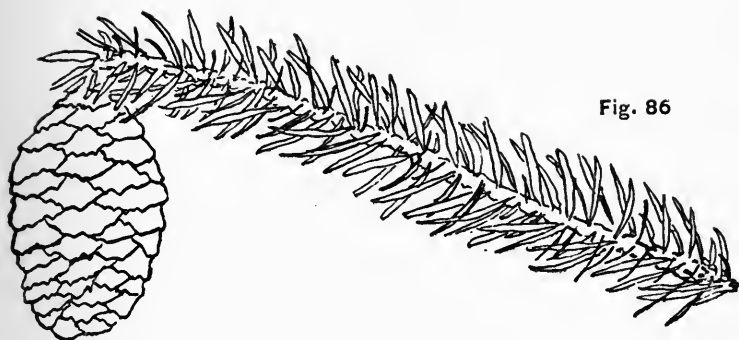


Fig. 86

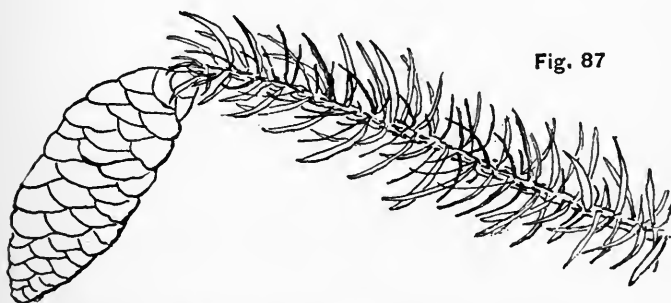
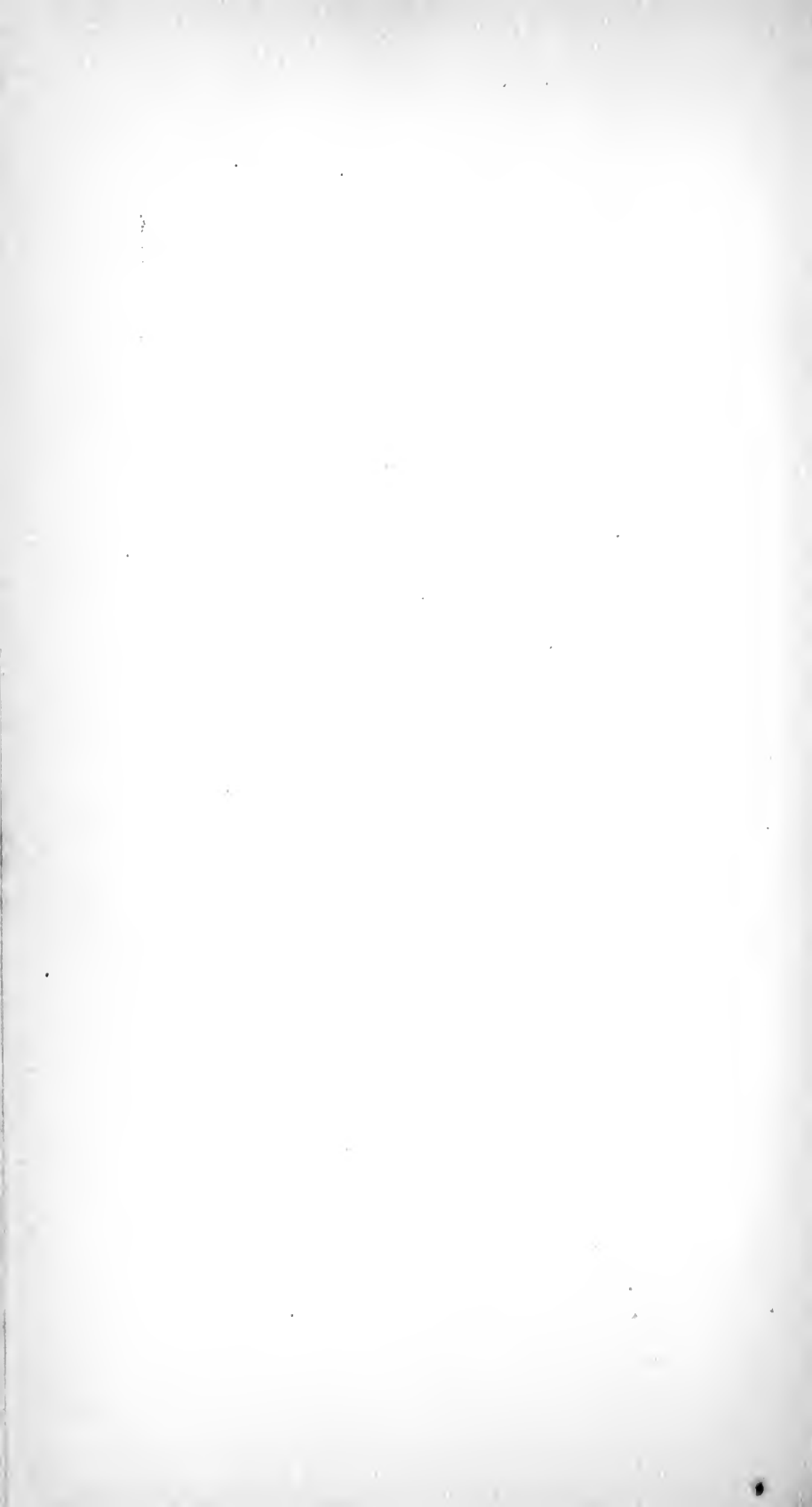


Fig. 87

Fig. 86.—Black Spruce. *P. Mariana* (Mill), B. S. P.
Fig. 87.—White Spruce. *P. Canadensis* (Mill), B. S. P.
NATURAL SIZE.



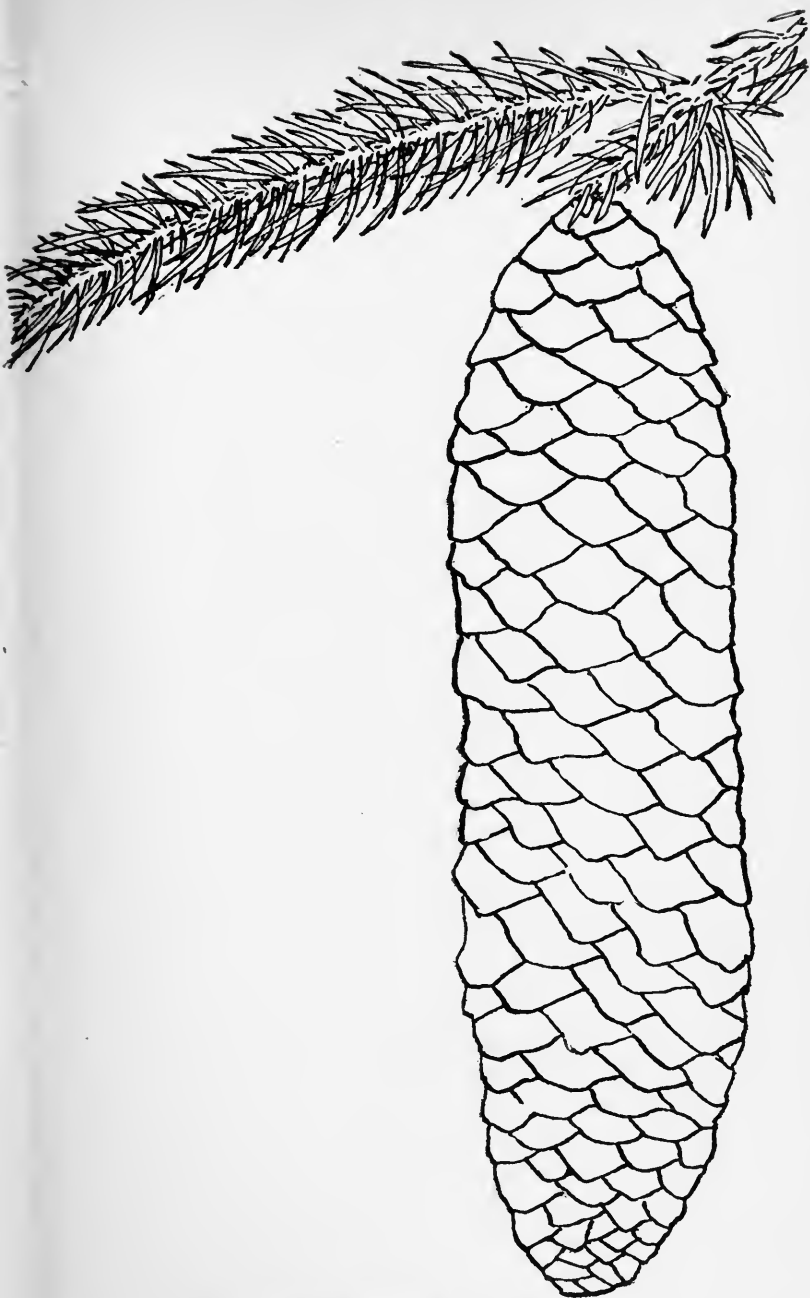


Fig. 88.—Norway Spruce. [*P. excelsa*.]
NATURAL SIZE.



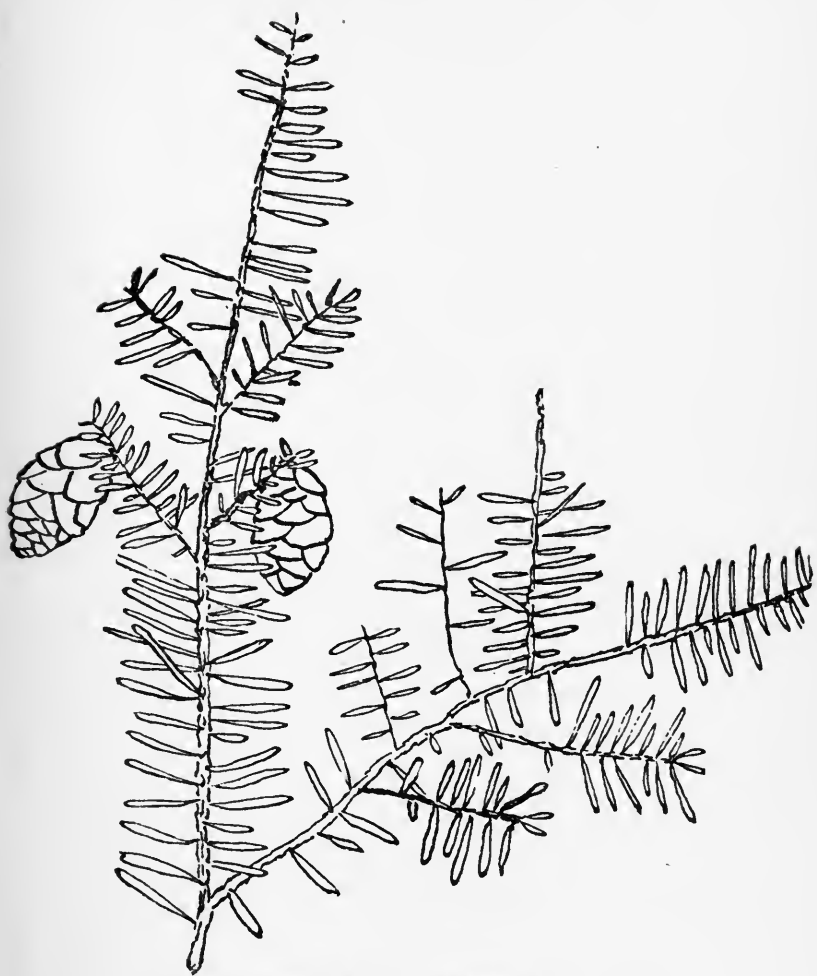


Fig. 89.—Hemlock. *T. Canadensis* (L.), Carr.
NATURAL SIZE.

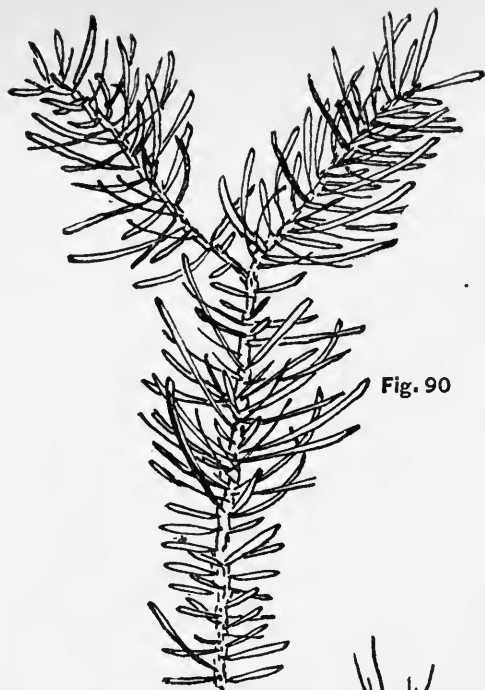


Fig. 90

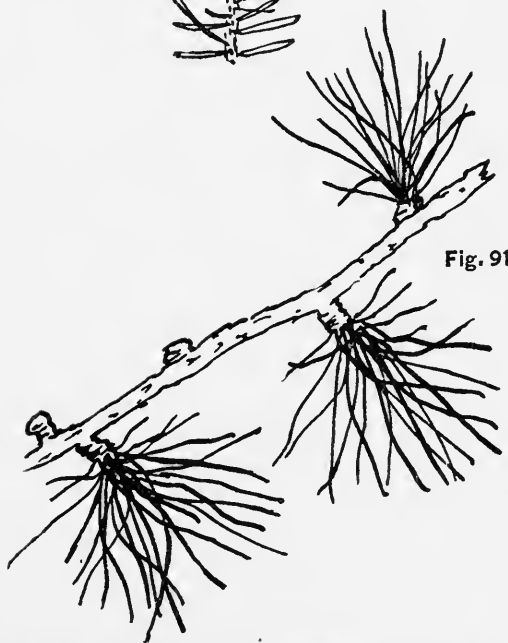


Fig. 91

Fig. 90.—Balsam Fir. *A. balsàmea* (L.), Miller.

Fig. 91.—Larch. *L. laricina* (Du Roi), Koch.

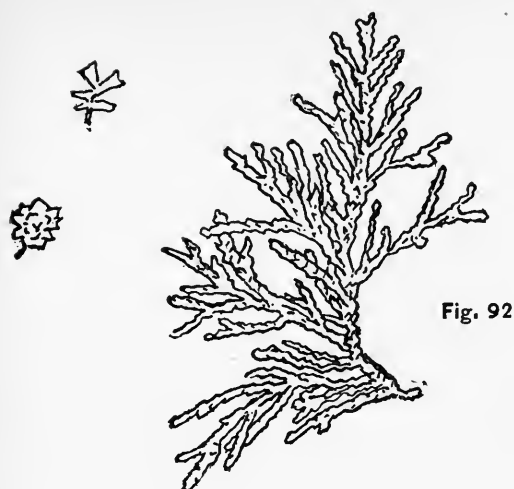


Fig. 92

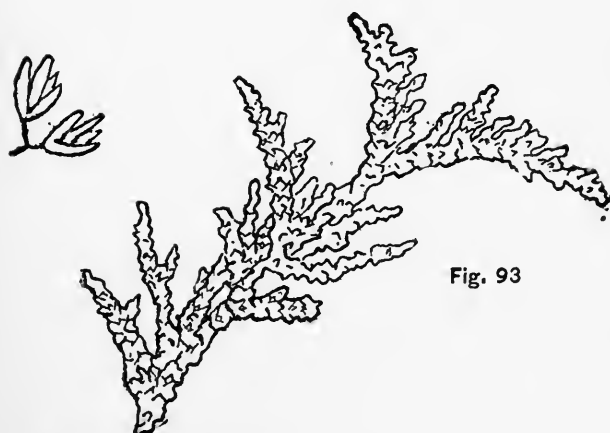
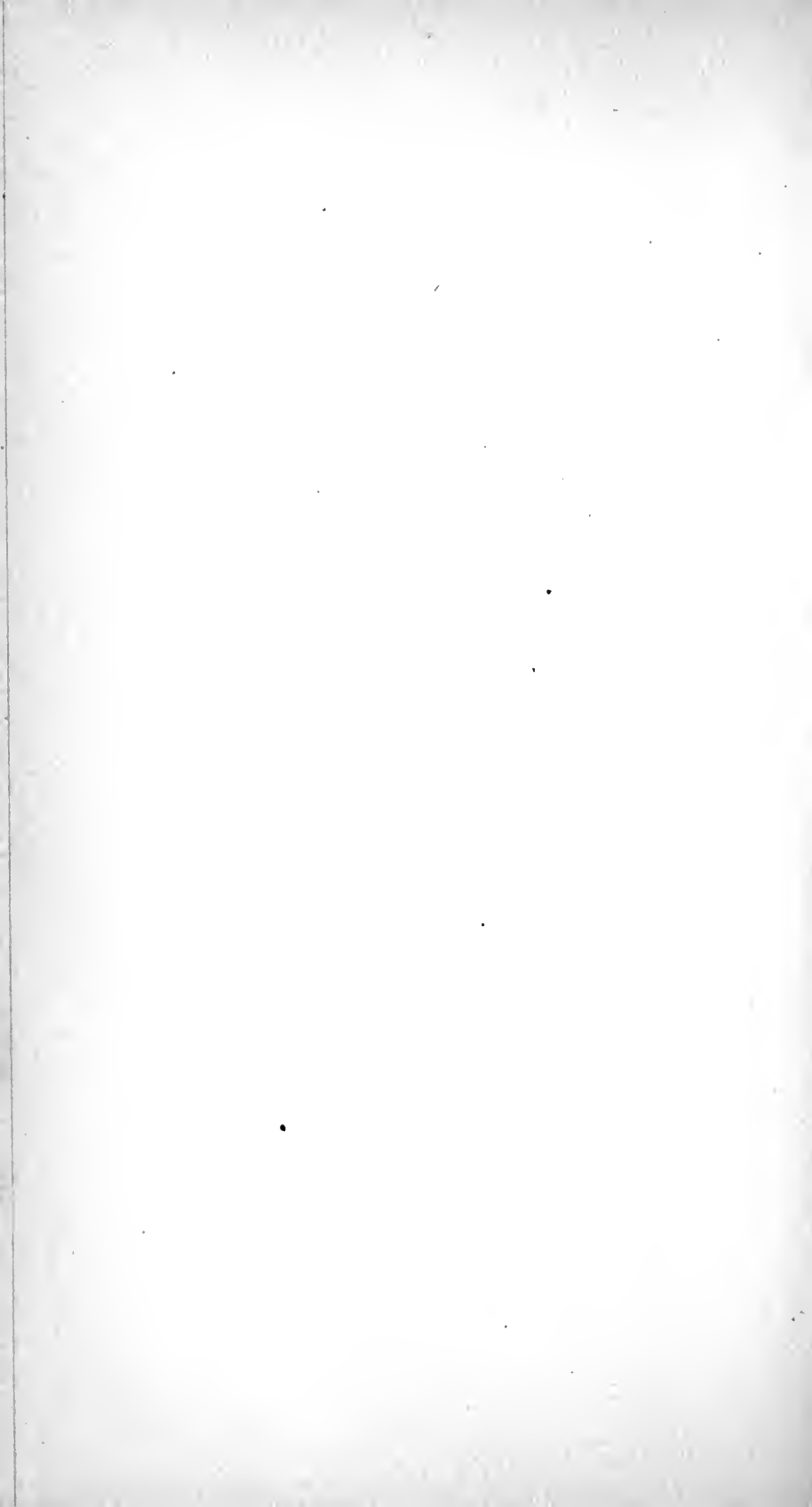


Fig. 93

Fig. 92.—White Cedar. *C. thyoides* (L.), B. S. P.

Fig. 93.—Arbor Vitæ. (*T. occidentalis*, L.)

NATURAL SIZE.



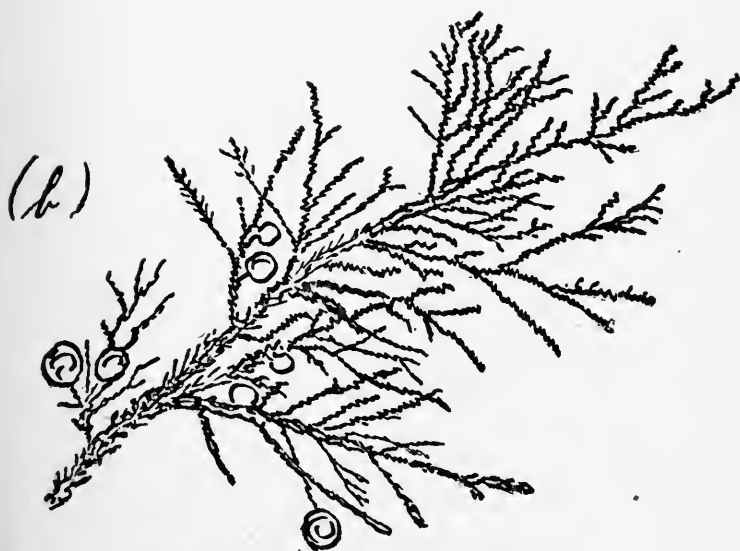
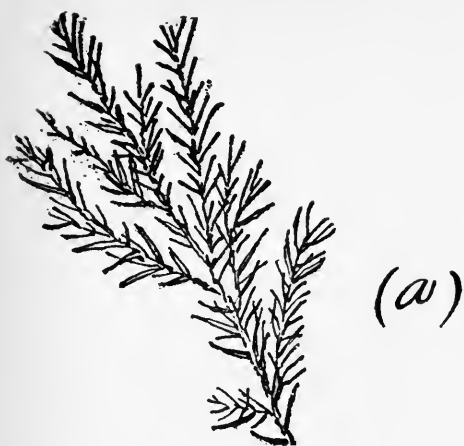


Fig. 94.—Red Cedar. (*J. Virginiana*, L.)

a. Young. *b.* Old.

NATURAL SIZE.

TREES WITH COMPOUND LEAVES

(FEATHER-SHAPED)

LEAVES ALTERNATE

(EDGE ENTIRE)

D I

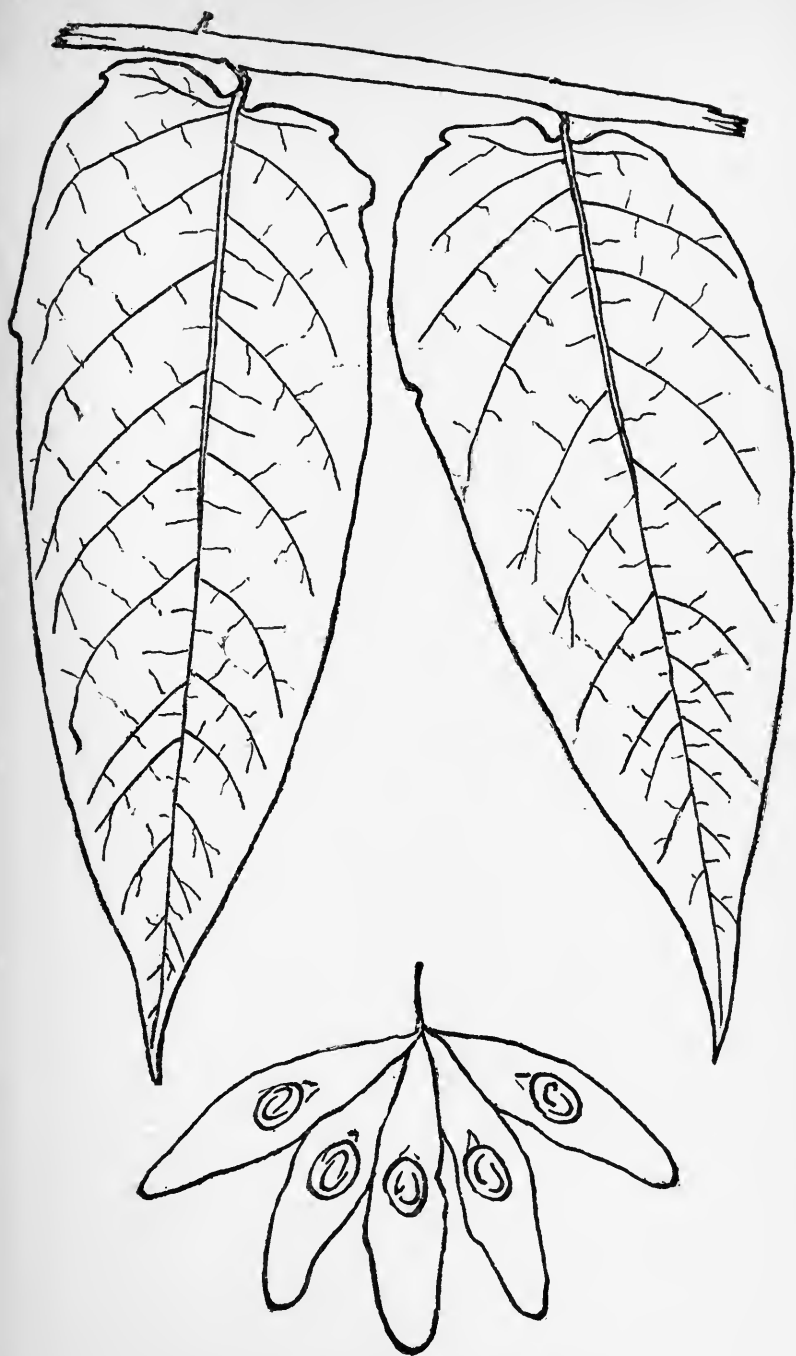
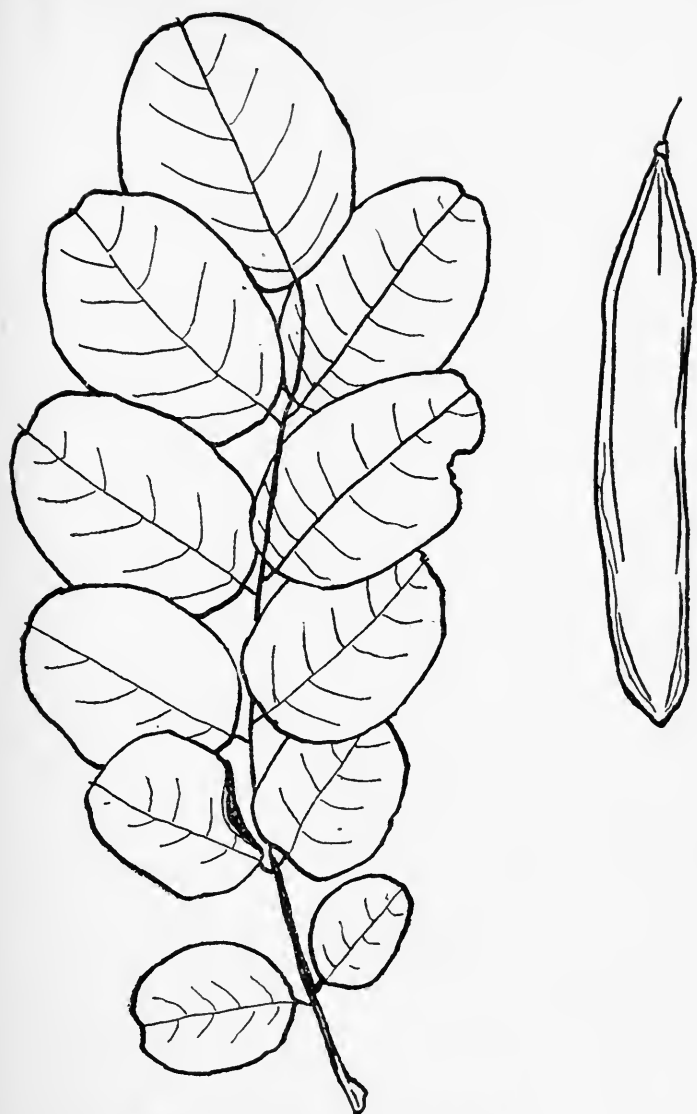


Fig. 95.—*Ailanthus*. [*A. glandulosa*, Desf.]
NATURAL SIZE.





• Fig. 96.—Locust. (*R. pseudacacia*, L.)
NATURAL SIZE.





Fig. 97.—Kentucky Coffee Tree. *G. disicus* (L.), Koch.
NATURAL SIZE.

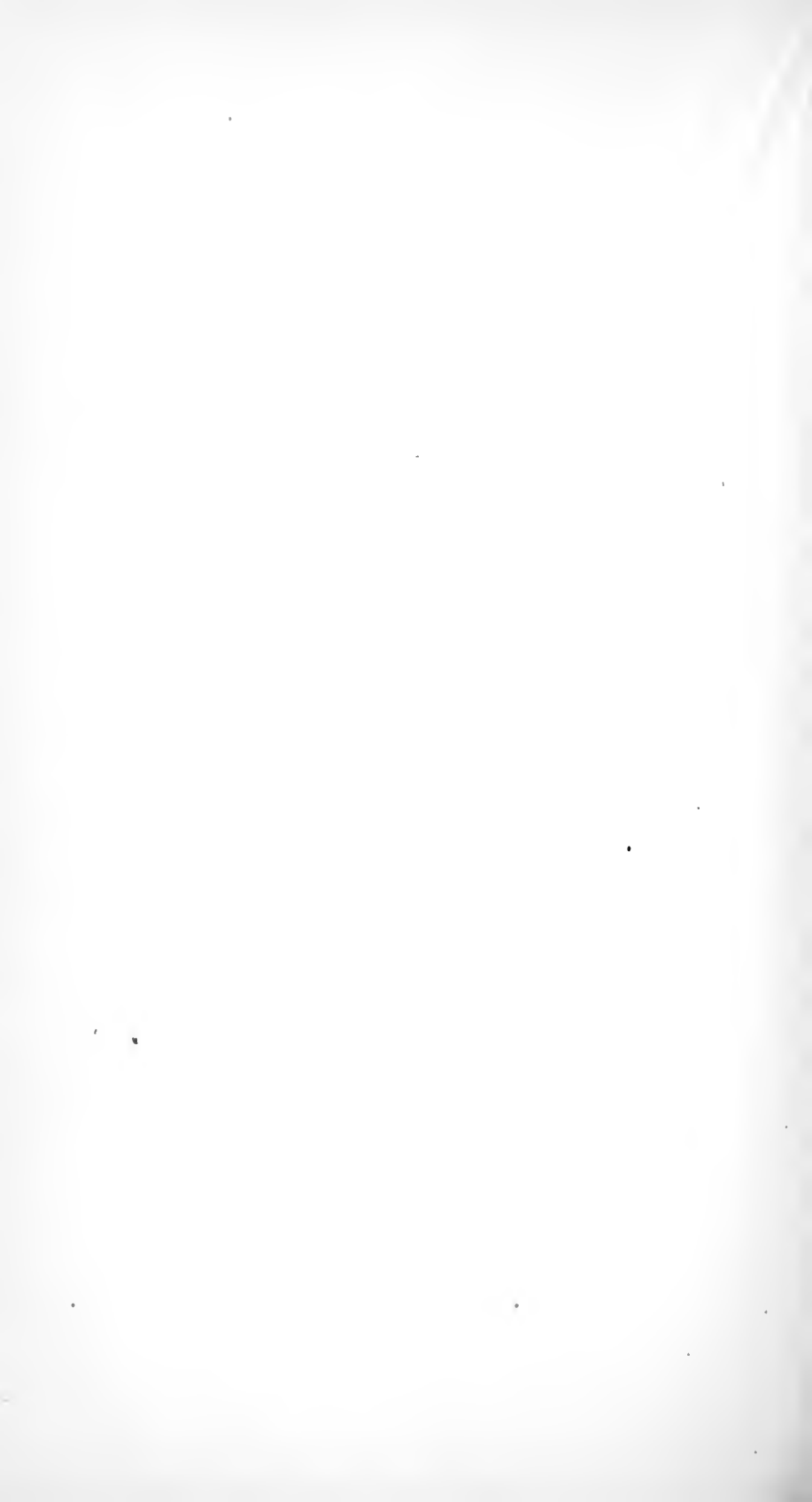




Fig. 98.—Honey Locust. (*G. triacanthos*, L.)

NATURAL SIZE.

TREES WITH COMPOUND LEAVES
(FEATHER-SHAPED)

LEAVES ALTERNATE

CONTINUED

(EDGE TOOTHED)

D II

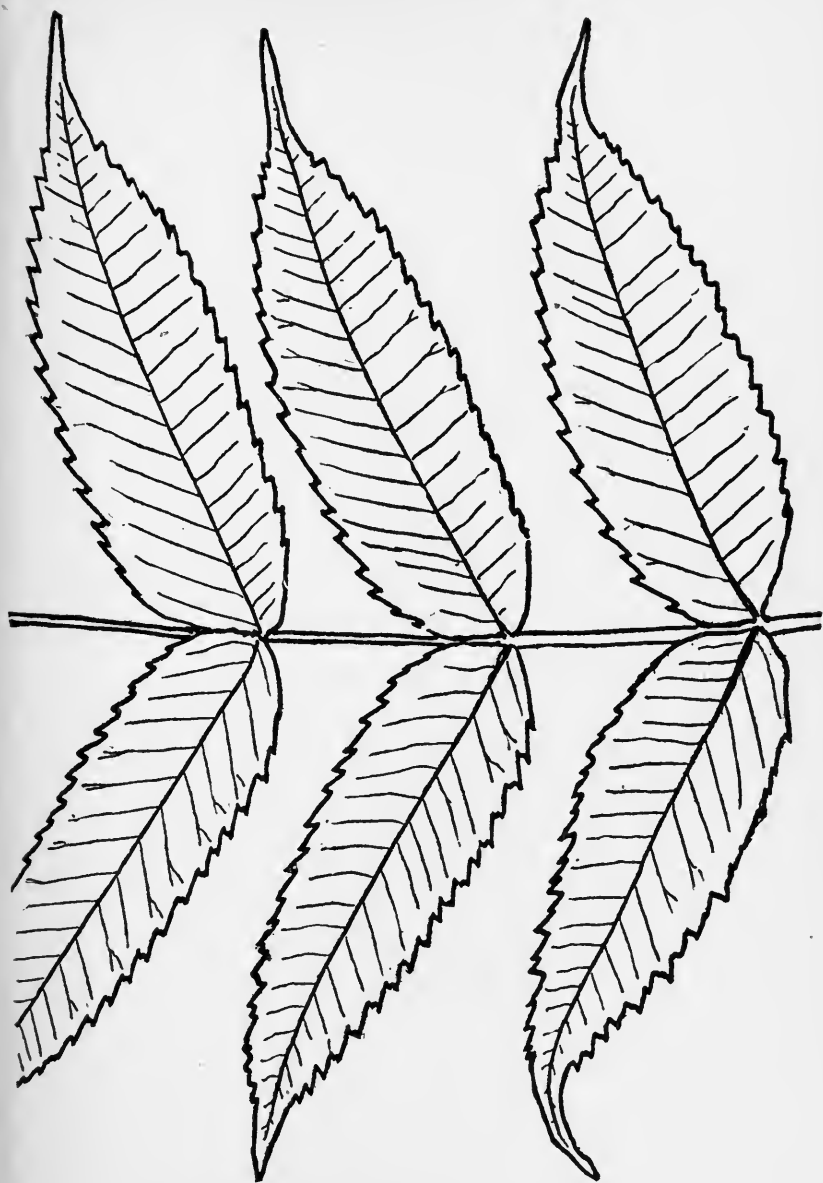


Fig. 99.—Stag-horn Sumach. (*R. typhina*, L.)
NATURAL SIZE.



Fig. 100.—Poison Sumach. (*R. venenata*, D. C.)
NATURAL SIZE.

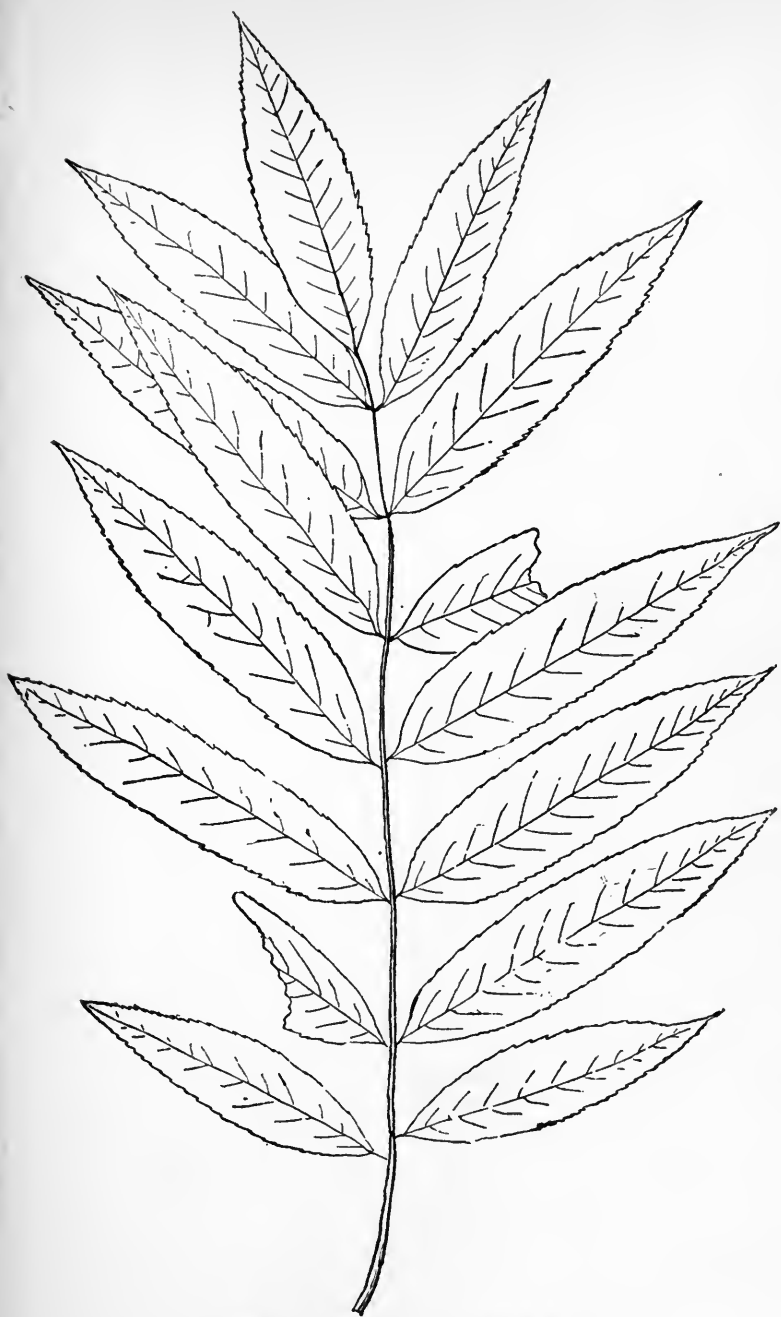


Fig. 101.—Mountain Ash. (*P. Americana*, D. C.)

REDUCED ONE FOURTH.



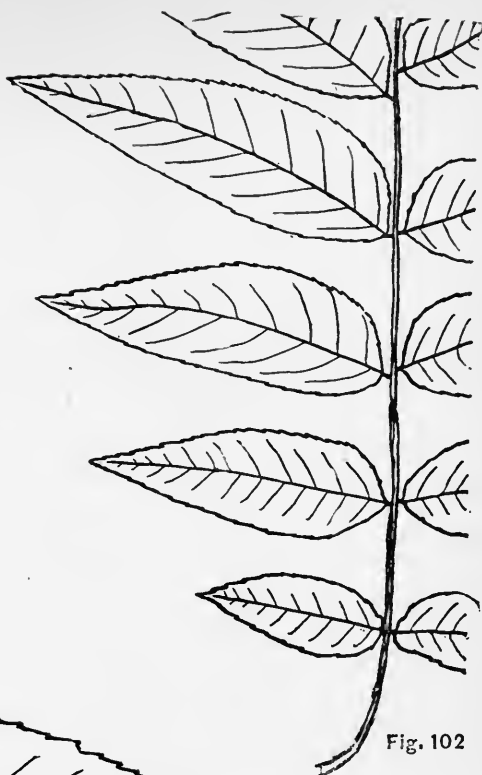
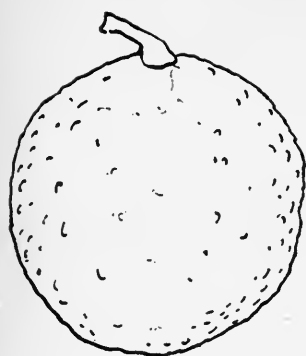


Fig. 102

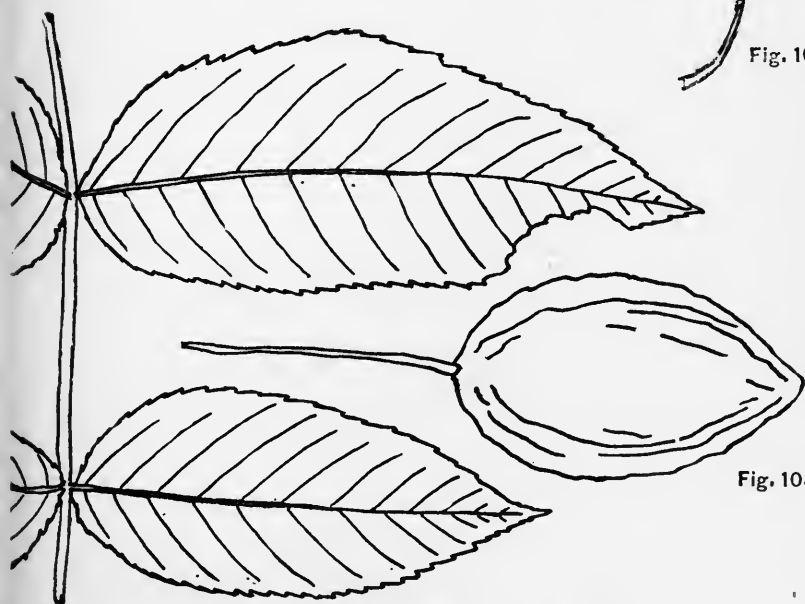


Fig. 103

Fig. 102.—Black Walnut. (*J. nigra*, L.)

Fig. 103.—Butternut. (*J. cinerea*, L.)

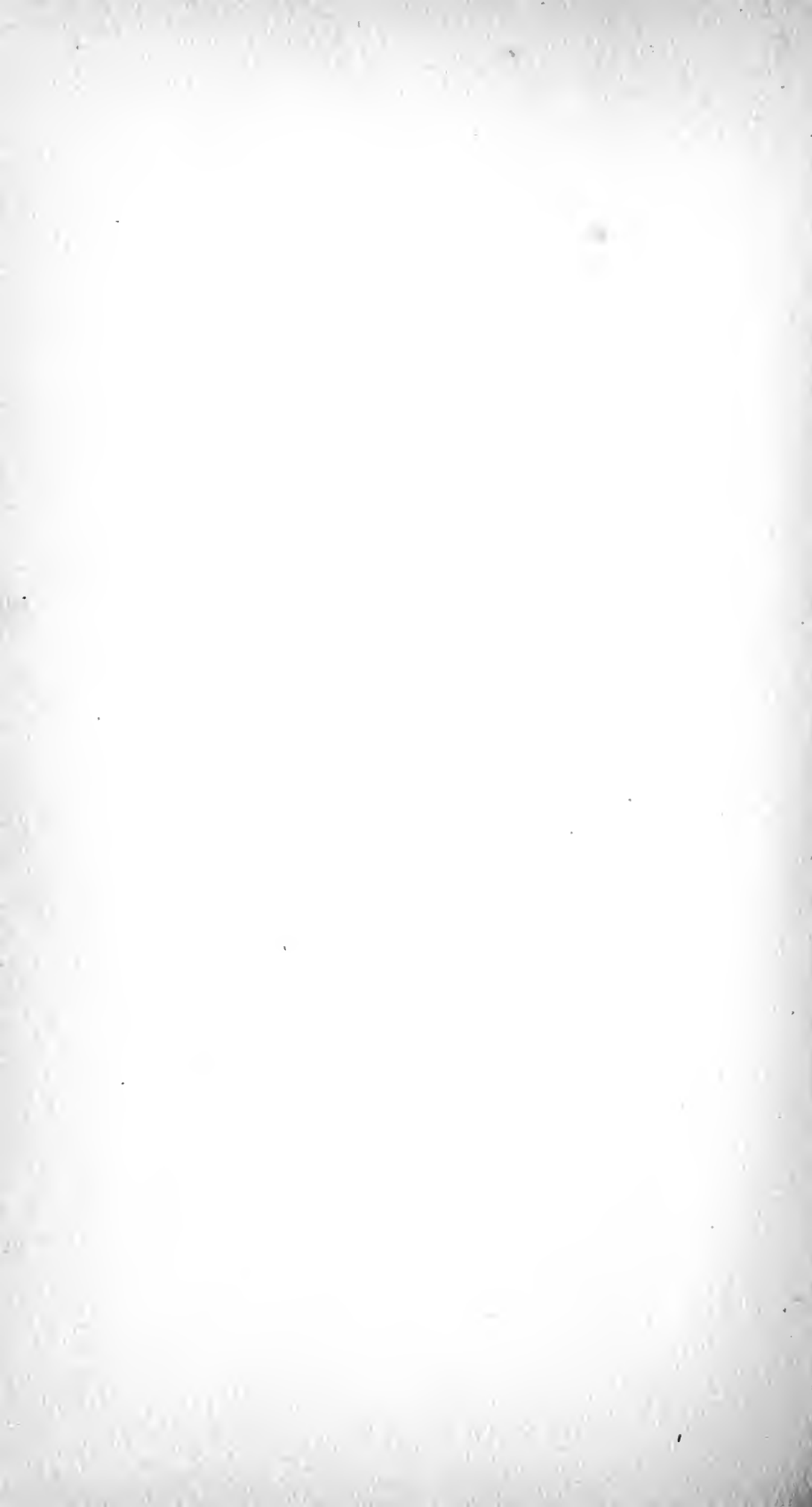




Fig. 104.—Shag-bark. *H. ovata* (Mill), Britton.
LEAF AND FRUIT REDUCED ONE THIRD.



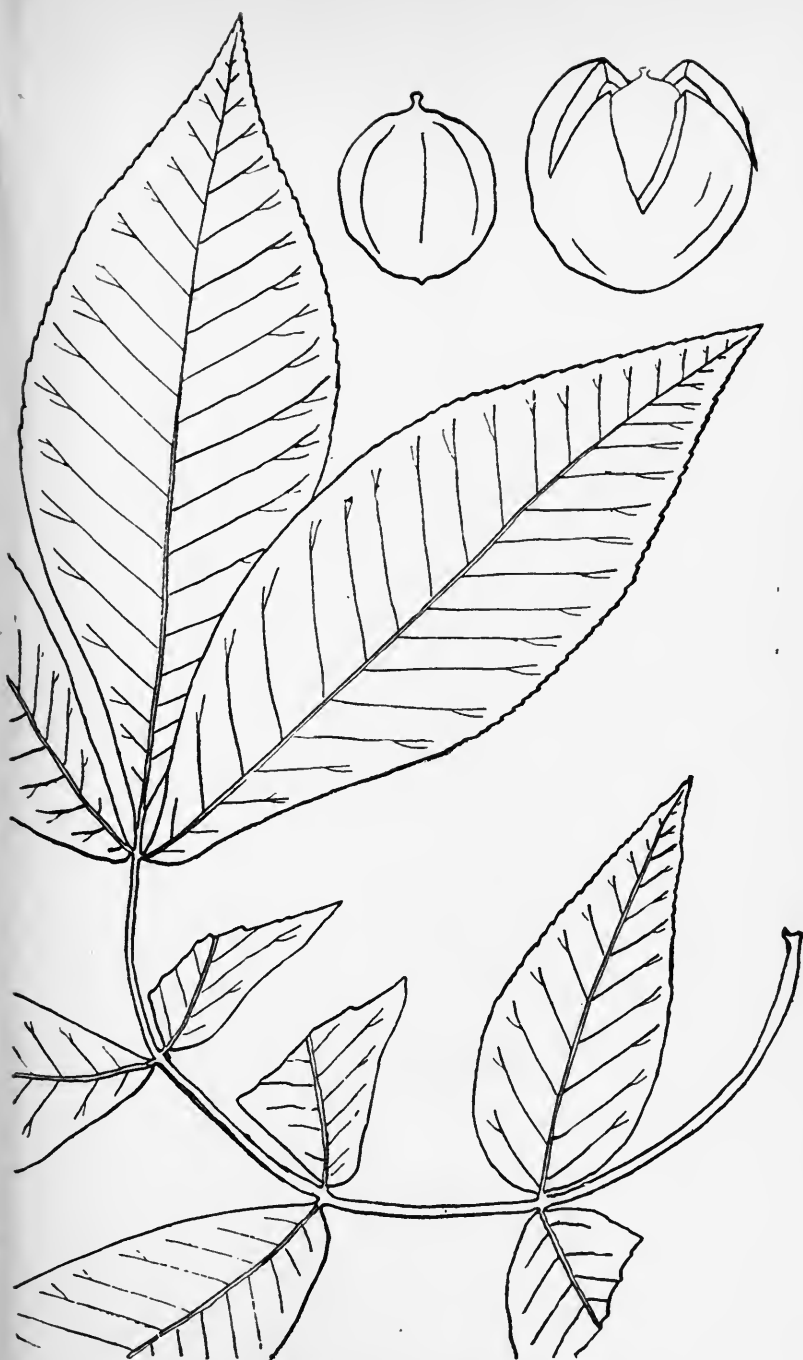


Fig. 105.—Mocker-nut. *H. alba* (L.), Britton.
LEAF AND FRUIT REDUCED ONE THIRD.



Fig. 106.—Small-fruited Hickory. *H. microcarpa* (Nutt), Britton.
LEAF AND FRUIT REDUCED ONE THIRD.

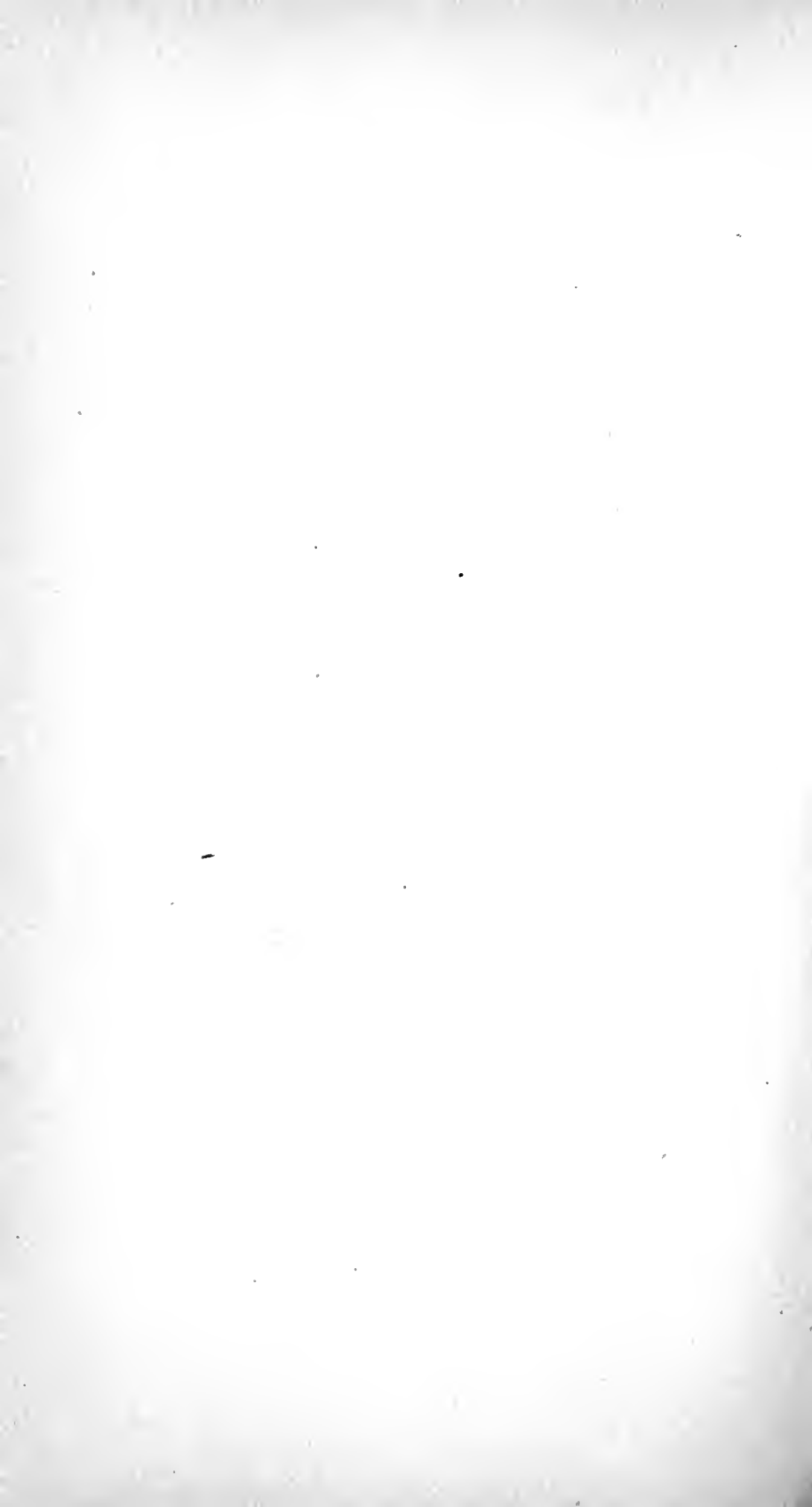




Fig. 107, *a* and *b*.—Pig-nut. *H. glabra* (Mill), Britton.
LEAF AND FRUIT REDUCED ONE THIRD.



Fig. 108.—Bitter-nut. *H. minima* (Marsh), Britton.
LEAF AND FRUIT REDUCED ONE THIRD.

TREES WITH COMPOUND LEAVES

(FEATHER-SHAPED)

CONTINUED

LEAVES OPPOSITE

(EDGE ENTIRE OR TOOTHED)

E I, II



Fig. 109.—Ash-leaved Maple. (*N. aceroides*, M.)
NATURAL SIZE.



Fig. 110.—White Ash. (*F. Americana*, L.)
LEAF AND FRUIT REDUCED ONE THIRD.

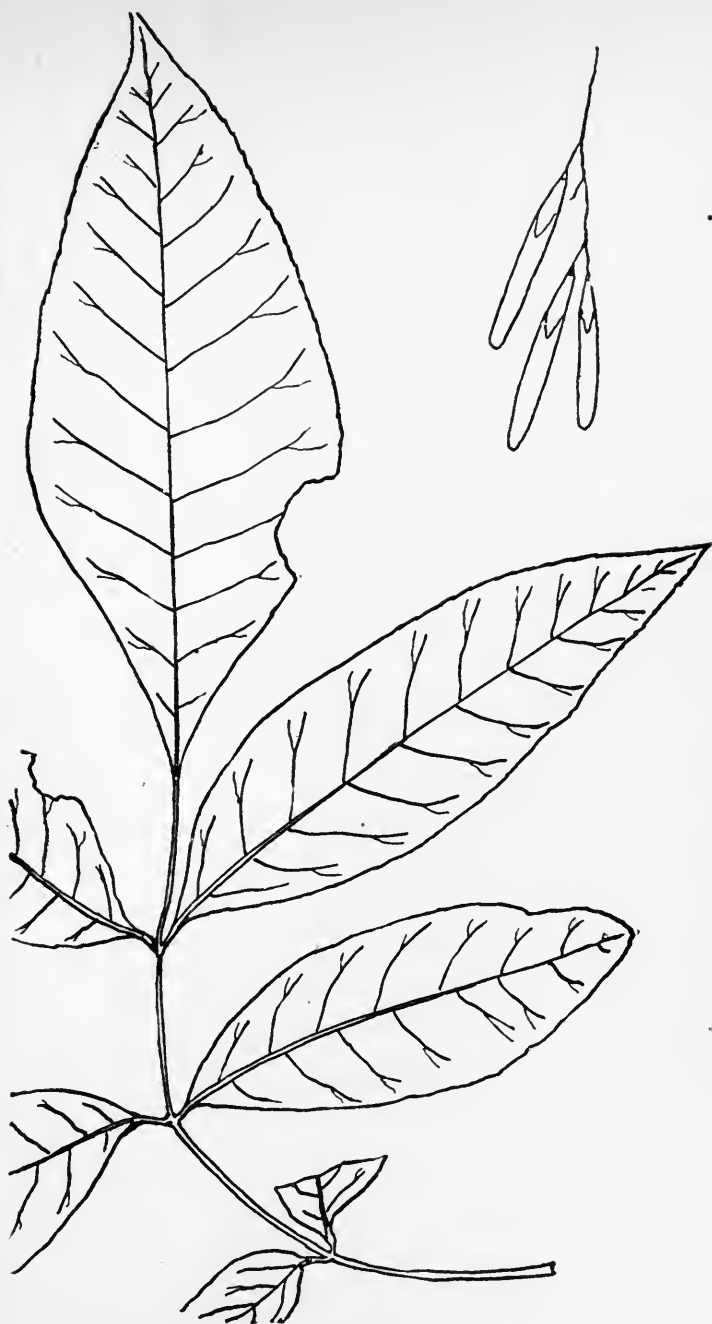


Fig. III.—Red Ash. (*F. pubescens*, Lam.)

197 LEAF AND FRUIT REDUCED ONE THIRD.

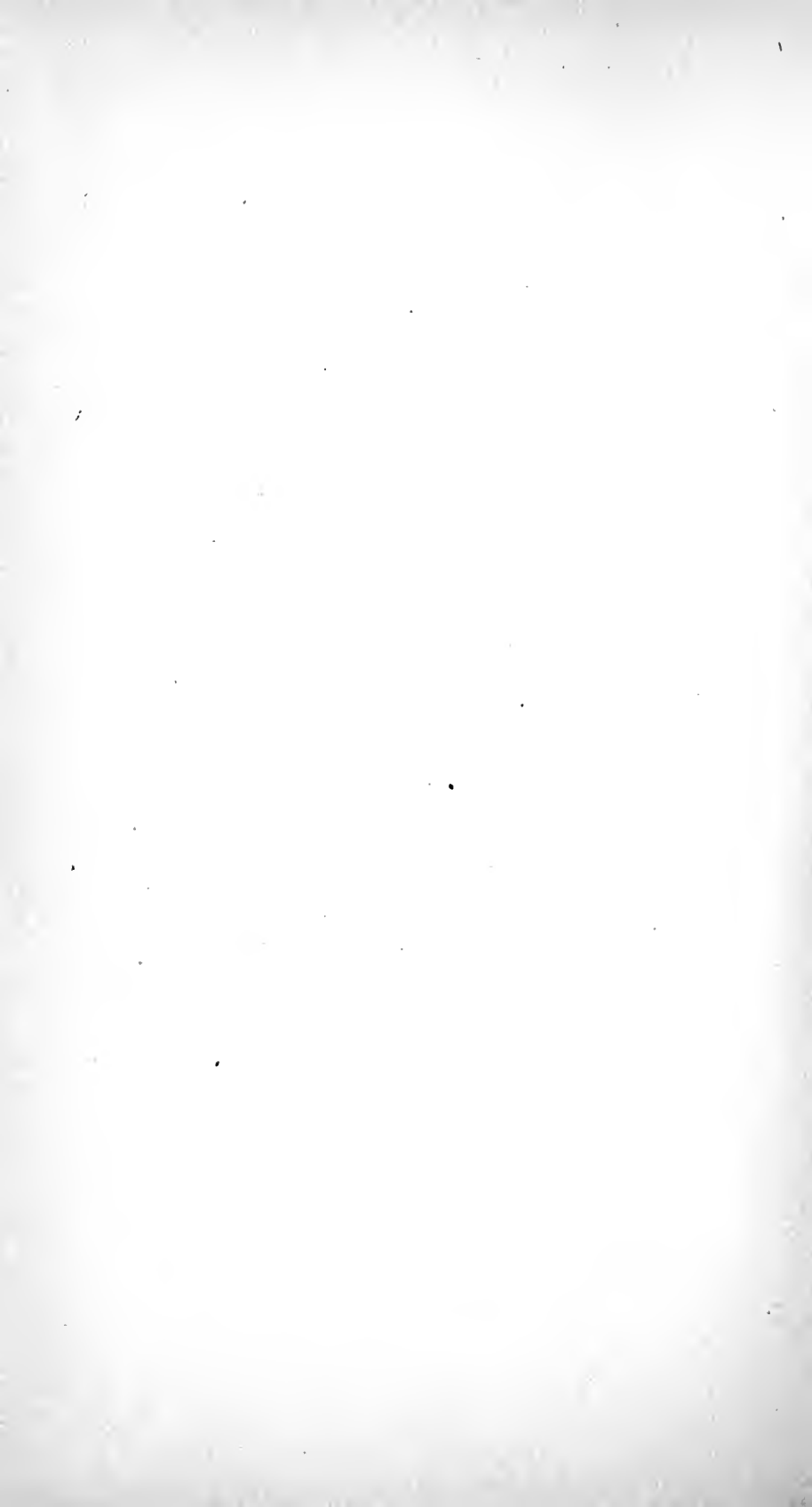




Fig. 112.—Green Ash. (*F. viridis*, Michx., f.)
LEAF AND FRUIT REDUCED ONE THIRD.

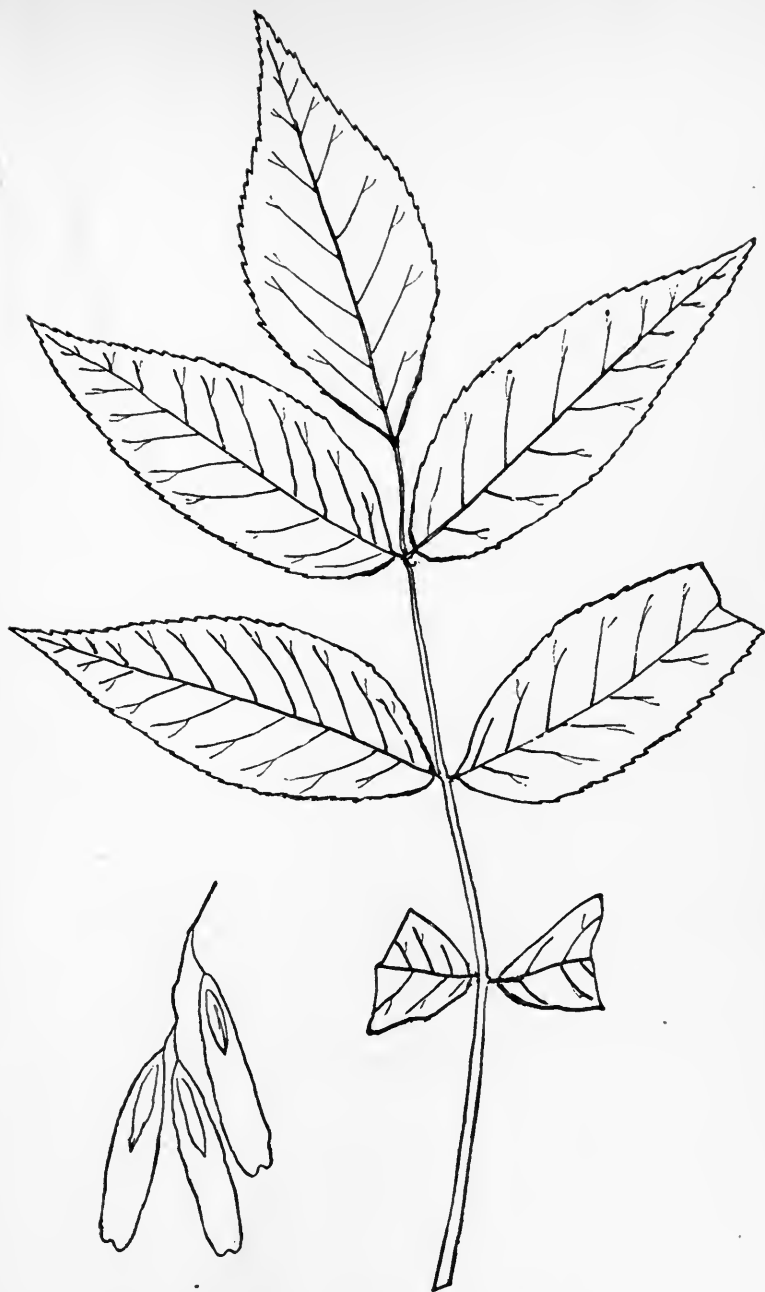


Fig. 113.—Blue Ash. (*F. quadrangulata*, Michx.)
LEAF AND FRUIT REDUCED ONE THIRD.

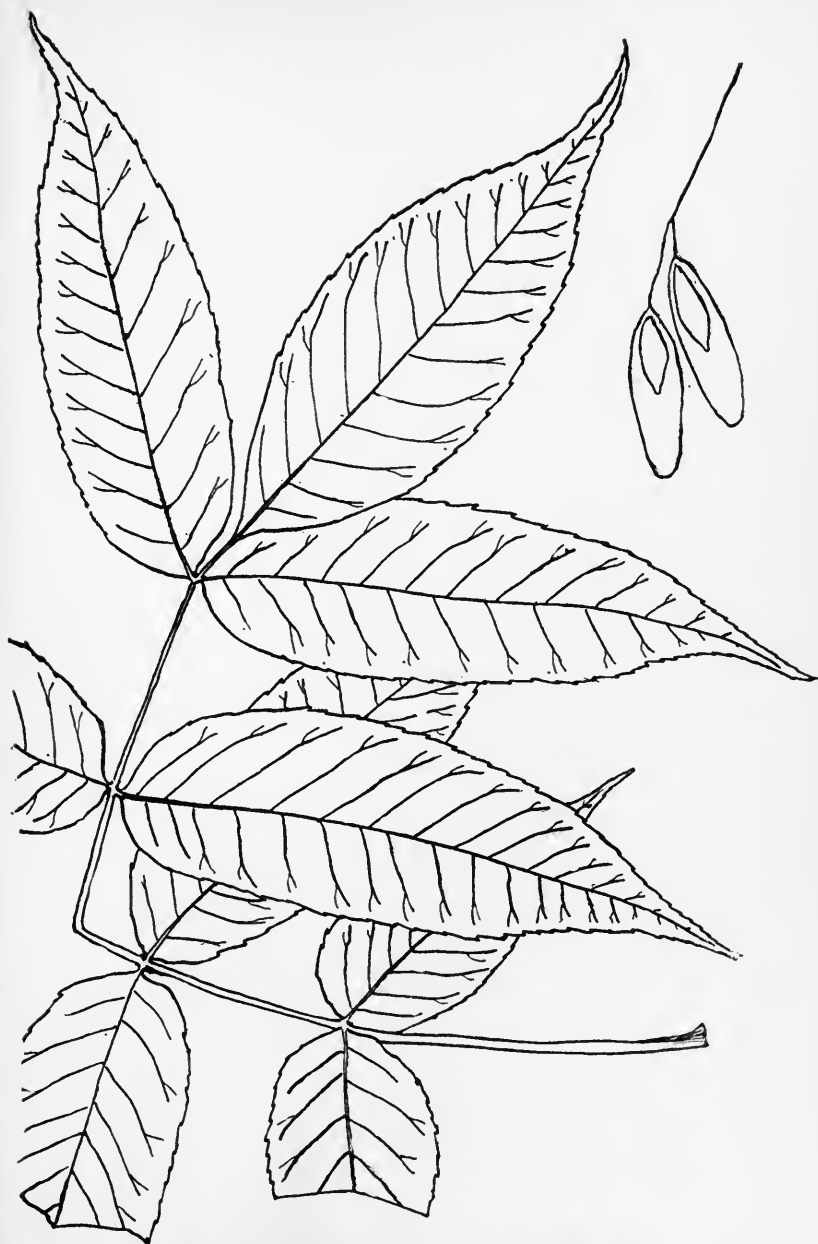


Fig. 114.—Black Ash. (*F. sambucifolia*, Lam.)
LEAF AND FRUIT REDUCED ONE THIRD.

TREES WITH COMPOUND LEAVES
(HAND-SHAPED)

LEAVES OPPOSITE
(EDGE TOOTHED)

F I



Fig. 115.—Sweet Buckeye. (*Æ. flava*, Ait.)
REDUCED ONE THIRD.

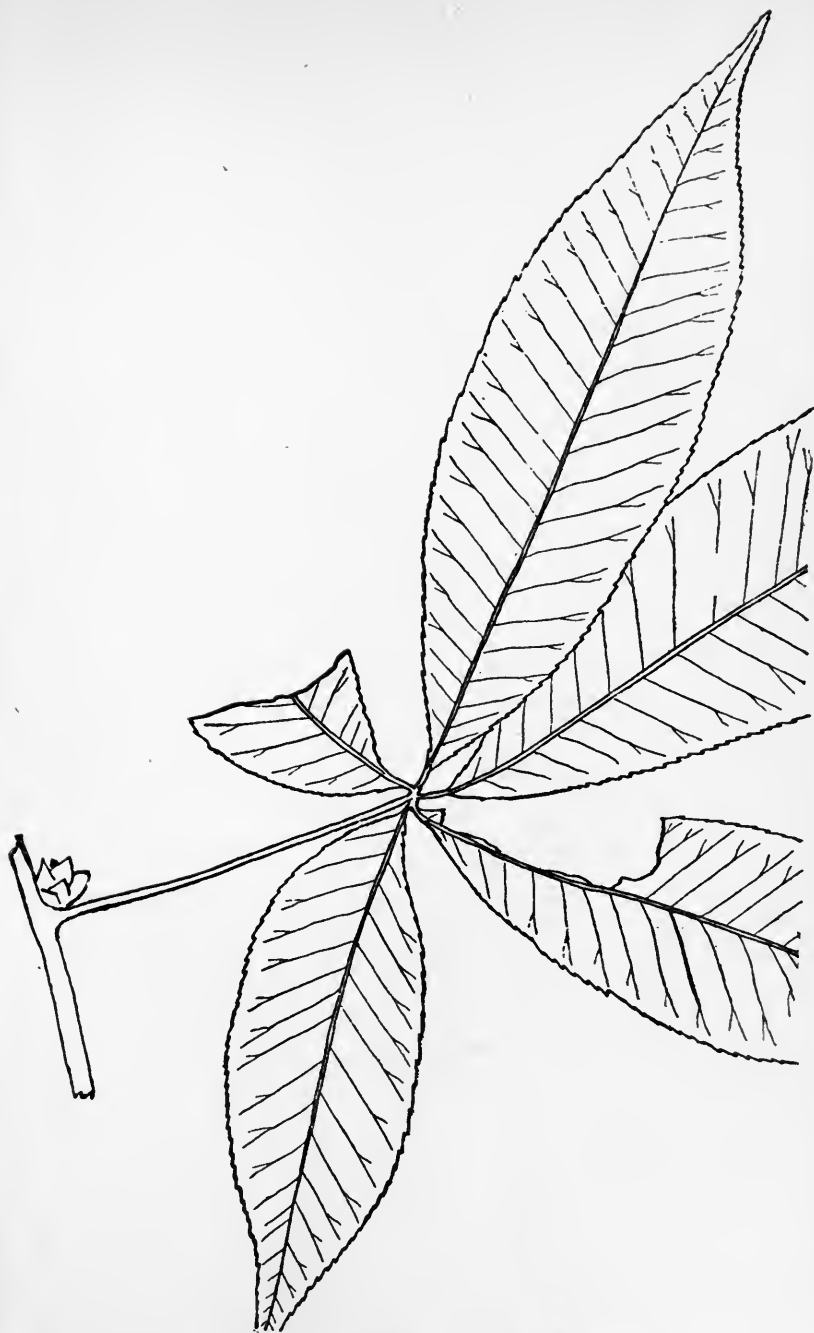
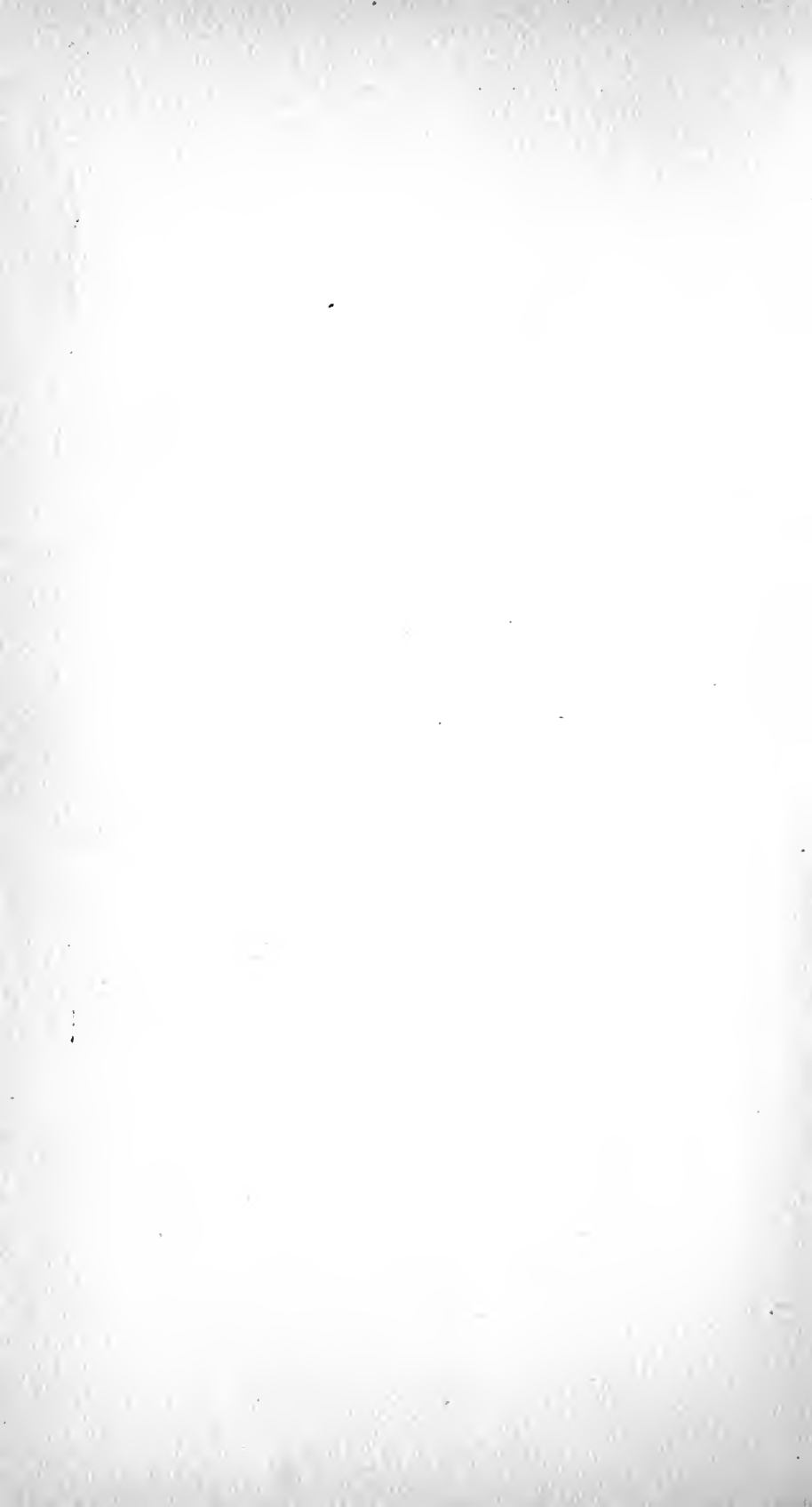


Fig. 116.—Ohio Buckeye. (*Æ. glabra*, Willd.)
REDUCED ONE THIRD.

NAMES OF OMITTED AND COMPARATIVELY UNIM- PORTANT TREES.

<i>Tilia heterophylla</i> . Vent.	<i>Quercus coccinea</i> , Wang. var. <i>ambigua</i> ,
<i>pubescens</i> . Ait.	Gray.
<i>Pyrus angustifolia</i> . Ait.	(Of nine hybrid oaks, most are outside our
<i>Cratægus coccinea</i> , L. var. <i>mollis</i> .	limits or entirely local.)
<i>crus-galli</i> , L. <i>pyracanthifolia</i> .	<i>Catalpa speciosa</i> . Ward.
<i>Amelanchier Canadensis</i> , L. var. T. and	<i>Robinia viscosa</i> . Vent.
G.	<i>Gleditschia triacanthos</i> , L. var. <i>inermis</i> ,
<i>Ulmus racemosa</i> . Thomas.	and var. <i>brachycarpus</i> .
<i>Celtis occidentalis</i> , L. var. <i>crassifolia</i> .	<i>Rhus typhina</i> , L. var. <i>laciniata</i> .
<i>Salix amygdaloides</i> . Anders.	<i>Pyrus sambucifolia</i>
<i>Quercus macrocarpa</i> , Michx. var. <i>olivæ-</i>	<i>Hicoria sulcata</i> (Willd). Britton.
<i>formis</i> .	





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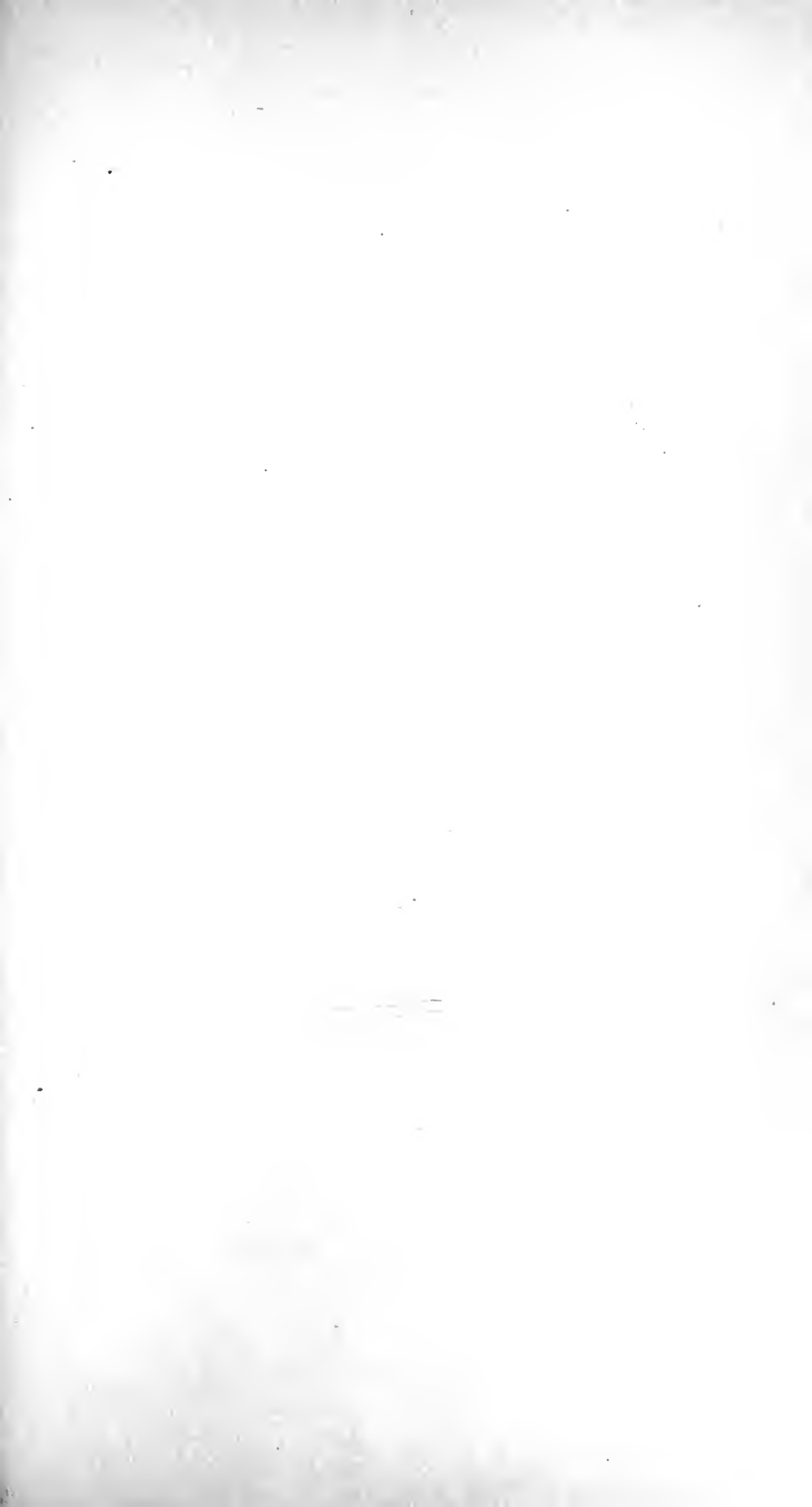
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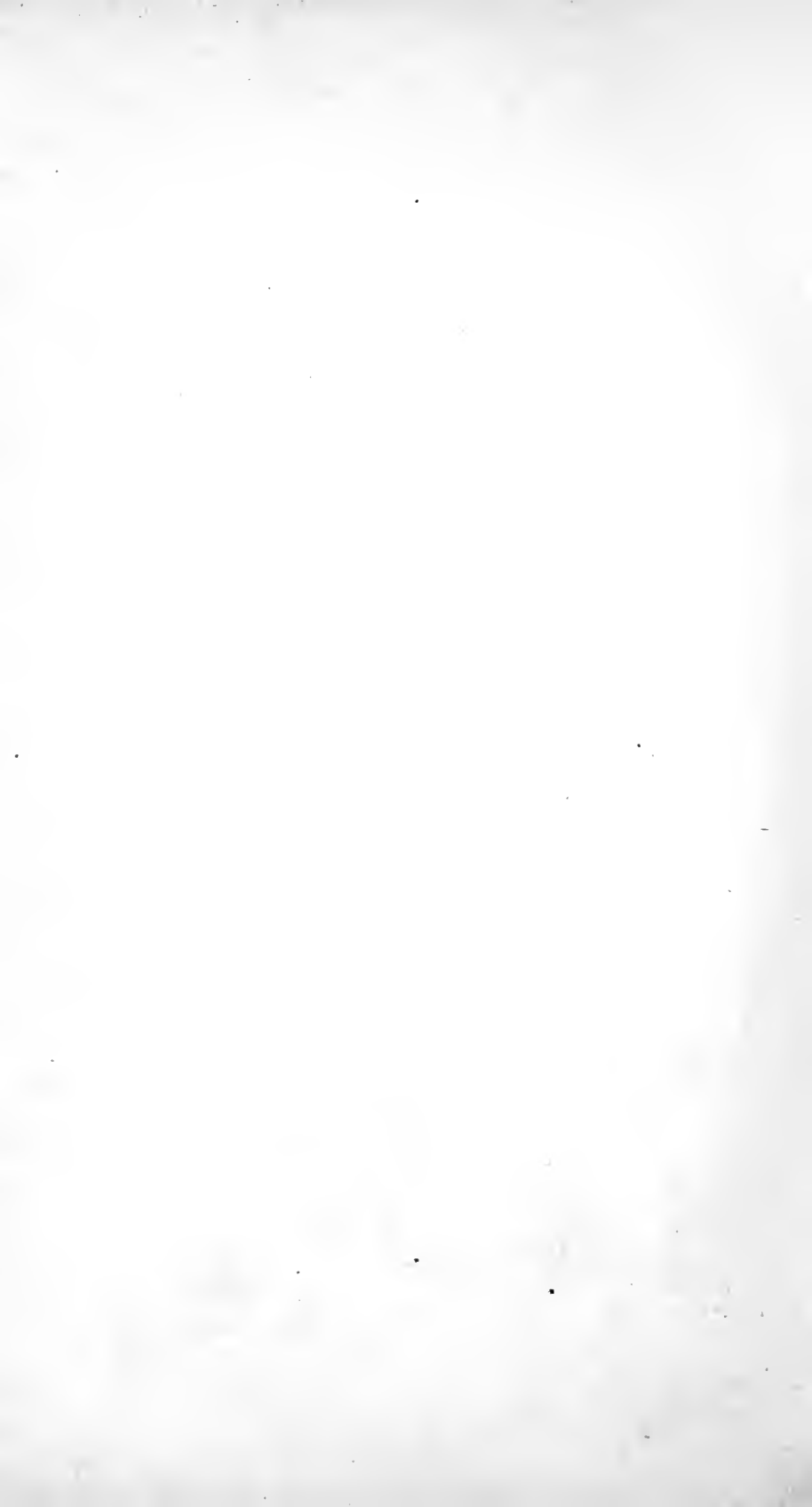
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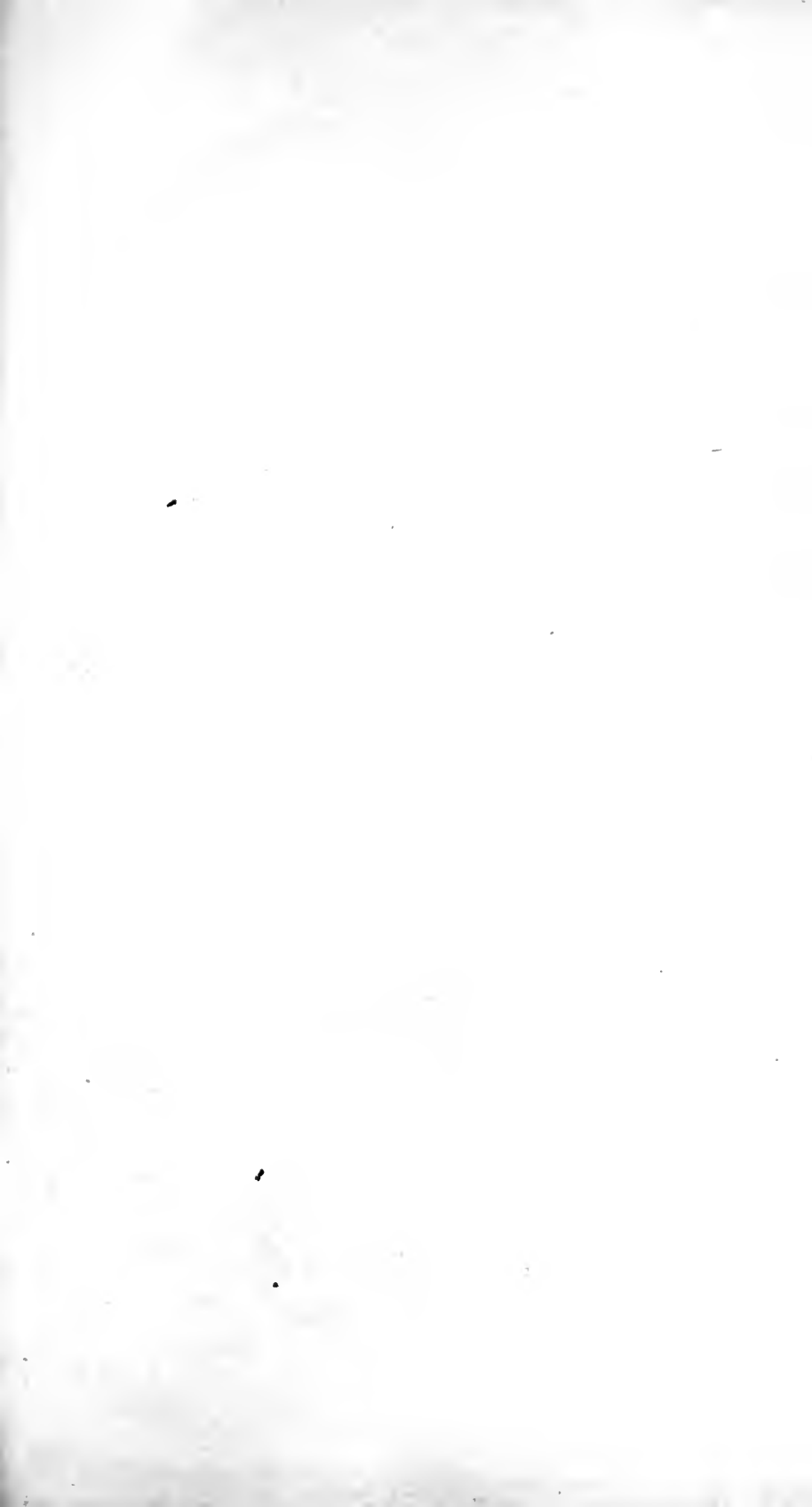
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